

S
382.6
A7fsme
1986

THE FEASIBILITY OF STIMULATING MONTANA EXPORTS THROUGH TRANSPORTATION INNOVATION

MONTANA DEPARTMENT OF COMMERCE
MONTANA DEPARTMENT OF AGRICULTURE
PORT OF MONTANA

STATE DOCUMENTS COLLECTION

PREPARED FOR
MARITIME ADMINISTRATION
U.S. DEPARTMENT OF TRANSPORTATION
WASHINGTON, D.C.

00042002

MONTANA STATE LIBRARY
1515 E. 6th AVE.
HELENA, MONTANA 59620

CONTRACT NO. DTMA-91-84-X-4-001
REPORT NO. MA-PORT-830-86017

APRIL 1986





LEGAL NOTICE

This report was prepared as an account of government-sponsored work. Neither the United States, nor the Maritime Administration, nor any person acting on behalf of the Maritime Administration (A) Makes any warranty or representation, expressed or implied, with respect to the accuracy, completeness or usefulness of the information contained in this report, or that the use of any information, apparatus, method, or process disclosed in this report may not infringe privately owned rights; or (B) Assumes any liabilities with respect to the use of or for damages resulting from the use of any information, apparatus, method, or process disclosed in this report. As used in the above, "persons acting on the behalf of the Maritime Administration" includes any employee or contractor of the Maritime Administration to the extent that such employee or contractor prepares, handles, or distributes, or provides access to any information pursuant to his employment or contract with the Maritime Administration.

Technical Report

THE FEASIBILITY OF STIMULATING MONTANA
EXPORTS THROUGH TRANSPORTATION INNOVATION

Prepared by:

Montana Department of Commerce
Montana Department of Agriculture
Helena, Montana

Port of Montana
Butte, Montana

Phillips Cartner & Co., Inc. (Consultant)

April, 1986

Contract No. DTMA-91-84-X-4-001

Report No. MA-PORT-830-86017

Prepared for:

Maritime Administration
U.S. Department of Transportation

The Transportation Division of the Montana Department of Commerce wishes to acknowledge the valuable cooperation and assistance received from all study participants during the performance of the study. Sincere appreciation is expressed to the representatives of the Maritime Administration of the U.S. Department of Transportation for their helpful assistance and counsel during the course of the study.

Project Team

Richard A. Howell, Manager (Project Manager)
Special Projects
Transportation Division
Montana Department of Commerce

Steve Kalgaard, Market Research Analyst
Agricultural Development Division
Montana Department of Agriculture

John Maloney, International Trade Specialist
Business Assistance Division
Montana Department of Commerce

Richard Monaghan, General Manager
Port of Montana

Jerry Tavegia, Operations Officer
Business Assistance Division
Montana Department of Commerce

Policy Advisory

William J. Fogarty, Administrator (Project Director)
Transportation Division
Montana Department of Commerce

Keith Kelly, Director
Montana Department of Agriculture

Keith L. Colbo, Director
Montana Department of Commerce

Project Consultant

John H. Leeper, President
Phillips Cartner & Co., Inc.

Representing Maritime Administration

William W. Dean
Awards Officer's Technical Representative

TABLE OF CONTENTS

<u>PART</u>		<u>PAGE</u>
1.	<u>INTRODUCTION</u>	1
1.1	Purpose	1
1.2	Background	1
1.3	Report Format	6
1.31	Executive Summary	6
1.32	Report	6
1.33	Methodology	7
2.	<u>EXECUTIVE SUMMARY</u>	8
2.1	Overview	8
2.11	Introduction	8
2.12	The Project	8
2.2	Major Findings	14
2.21	Producer/Shipper Interviews	14
2.22	Market Factors	15
2.23	Export Market Commodity and Product Findings	17
2.24	Export Market - Transportation Cost Evaluation Findings	25
2.25	Producer Determined Transportation Factors	25
2.26	Study Determined Transportation Factors	26
2.3	Conclusions	30
2.31	Marketing Action Plan	30
2.32	Transportation Action Plan	41
3.	<u>MONTANA PRODUCTS FOR EXPORT</u>	48
3.1	Purpose and Procedure	48
3.11	Determine Montana Export Products	48
3.12	Select Firms to be Interviewed	49
3.13	Sample Size and Geographic Area	50

TABLE OF CONTENTS (Continued)

<u>PART</u>		<u>PAGE</u>
	3.2 Interview Program	50
	3.21 Questionnaire Development	50
	3.22 Interview-Questionnaire	50
	3.23 Export Status of Firms Interviewed	51
	3.3 Interview Findings	52
	3.31 Interview Findings by Product/ Commodity Group	52
	3.32 Other Interview Findings	63
4.	<u>KEY EXPORT COMMODITIES AND PRODUCTS</u>	65
	4.1 Purpose and Procedure	65
	4.2 Parameters and Decision Matrix	66
	4.3 Conclusions	66
5.	<u>TARGET MARKETS FOR MONTANA COMMODITIES</u>	69
	5.1 Purpose and Procedure	69
	5.2 Parameters and Decision Matrix	69
	5.3 Conclusions	73
6.	<u>TARGET MARKET CHARACTERISTICS</u>	74
	6.1 Purpose and Procedure	74
	6.11 Preparing Export Market Survey	74
	6.12 Refining Products by Country to be Interviewed	75
	6.13 Establish Travel Teams	77
	6.14 Develop Travel Plans	77
	6.2 The Export Market Survey	78
	6.21 Interviews	78
	6.22 Market Characteristics and Prospects by Country	79
	6.3 Findings and Conclusions	89
	6.31 Montana Export Market Survey Findings	89
	6.32 Conclusions	98

TABLE OF CONTENTS (Continued)

<u>PART</u>		<u>PAGE</u>
7.	<u>MONTANA EXPORT TRANSPORTATION CORRIDORS AND MARITIME ASSETS</u>	100
7.1	Purpose and Procedure	100
7.11	Purpose	100
7.12	Procedures	100
7.13	Assumptions	100
7.2	Export Transportation Corridors	101
7.21	Route Analysis	102
7.22	Impact of Exchange Rate Fluctuations	131
7.23	Summary	134
7.3	Maritime Inland Waterway Options and Cost Comparisons	136
7.31	Water Route Analysis and Comparison	136
7.32	Summary	147
8.	<u>INNOVATIVE ALTERNATIVES FOR REDUCING TRANSPORTATION COSTS</u>	149
8.1	Innovation Alternatives	149
8.2	Innovation Alternatives and Cost Comparisons	149
8.21	Feasibility for Exploiting Backhaul Routes	149
8.22	Potential for Double-Stacked Containers	151
8.23	Potential for Developing Export Trading Company	154
8.24	Innovative Methods of Loading Containers	158
8.25	Summary	159
9.	<u>CONCLUSIONS</u>	160
9.1	Marketing Factors	160
9.11	Montana's Top Export Commodities	160
9.12	Producer/Shipper Determined Market Factors	161
9.13	Market Factors	162
9.14	Export Market Commodity and Product Findings	164

TABLE OF CONTENTS (Continued)

<u>PART</u>		<u>PAGE</u>
	9.15 Export Market - Transportation Cost Evaluation Findings	172
	9.2 Transportation Factors	173
	9.21 Producer/Shipper Determined Transportation Factors	173
	9.22 Study Determined Transportation Factors	174
10.	<u>ACTION PLAN</u>	179
	10.1 Marketing Action Plan	179
	10.11 Producer/Shipper Needs and Opportunities	180
	10.12 Major Recommendations Concerning the State of Montana	186
	10.13 Marketing Action Items	192
	10.2 Transportation Action Plan	200
	10.21 Land Transportation	200
	10.22 Water Transportation	202
	10.23 Export Shipping and Management Organizations	203
	10.24 Other	204
	10.25 Transportation Action Items	205
	Appendices	209
	Bibliography	
	Bibliographic Data Sheet	

LIST OF TABLES

<u>TABLE</u>		<u>PAGE</u>
<u>NO.</u>		
1.1	Distance to Montana's Water and Port Facilities	4
3.1	Products and Commodities of Montana Firms Interviewed	49
3.2	Export Status of Montana Firms Interviewed	51
4.1	Montana's Top Export Products and Commodities	68
5.1	Top Export Potential Countries	73
6.1	Montana Foreign Trade Opportunities - Japan	80
6.2	Montana Foreign Trade Opportunities - Korea	81
6.3	Montana Foreign Trade Opportunities - Taiwan - Republic of China	82
6.4	Montana Foreign Trade Opportunities - Peoples Republic of China	83
6.5	Montana Foreign Trade Opportunities - Singapore	84
6.6	Montana Foreign Trade Opportunities - Hong Kong	85
6.7	Montana Foreign Trade Opportunities - United Kingdom	86
6.8	Montana Foreign Trade Opportunities - West Germany	87
6.9	Montana Foreign Trade Opportunities - Netherlands	88
7.1	Delivered Costs and Transportation Costs - Coal (Bituminous) - Per Metric Ton	104
7.2	Delivered Costs and Transportation Costs - Grain (Wheat) - Per Metric Ton	109
7.3	Delivered Costs and Transportation Costs - Beef (Prime and Choice) - Per Metric Ton	113

LIST OF TABLES - (Continued)

<u>TABLE</u> <u>NO.</u>		<u>PAGE</u>
7.4	Delivered Costs and Transportation Costs - Beef (Prime and Choice) - Per Twenty Foot Container	114
7.5	Delivered Costs and Transportation Costs - Softwood Lumber - Per Metric Ton	119
7.6	Delivered Costs and Transportation Costs - Softwood Lumber - Per Forty Foot Container	120
7.7	Delivered Costs and Transportation Costs - Hides and Skins - Per Metric Ton	124
7.8	Delivered Costs and Transportation Costs - Hides and Skins - Per Twenty Foot Container	125
7.9	Delivered Costs and Transportation Costs - Talc - Per Metric Ton	128
7.10	Delivered Costs and Transportation Costs - Talc - Per Twenty Foot Container	129
7.11	Delivered Costs and Transportation Costs - Sunflower Seeds - Per Metric Ton	132
7.12	Delivered Costs and Transportation Costs - Sunflower Seeds - Per Twenty Foot Container	133
7.13	Key Commodity Imports into Target Markets - Total and Estimated Potential Montana Share	135
7.14	Target Market Areas - Total and Estimated Potential Montana Share	137
7.15	Delivered Costs and Transportation Costs - Coal (Bituminous) - Per Metric Ton	139
7.16	Delivered Costs and Transportation Costs - Grain (Wheat) - Per Metric Ton	141
7.17	Delivered Costs and Transportation Costs - Softwood Lumber - Per Metric Ton	144

LIST OF TABLES - (Continued)

TABLE <u>NO.</u>		<u>PAGE</u>
7.18	Delivered Costs and Transportation Costs - Softwood Lumber - Per Forty Foot Container	145
8.1	Marginal Cost Evaluation of Backhaul Transportation - Softwood Lumber to U.K. via Baltimore - Per Forty Foot Container	152
8.2	Evaluation of Double-Stacking Benefits - Sunflower Seeds to West Germany via Baltimore - Per Twenty Foot Container	155
8.3	Evaluation of Benefits of Export Trading Company - Wheat to Japan via Seattle - Per Metric Ton	157

LIST OF ILLUSTRATIONS

FIGURE		
<u>NO.</u>		<u>PAGE</u>
1.1	Montana Water and Port Facilities	5
4.1	Decision Matrix Products of Montana Firms	67
5.1	Countries Importing Montana Commodities	70
5.2	Decision Matrix - State of Montana Exports	71
7.1	Eastbound Trade Routes for Coal	103
7.2	Westbound Trade Routes for Coal	106
7.3	Westbound Trade Routes for Grain	107
7.4	Eastbound Trade Routes for Meat Products	111
7.5	Westbound Trade Routes for Meat Products	115
7.6	Eastbound Trade Routes for Timber Products	117
7.7	Westbound Trade Routes for Timber Products	121
7.8	Westbound Trade Routes for Hides, Skins and Furs	123
7.9	Westbound Trade Routes for Talc	127
7.10	Eastbound Trade Routes for Seed	130

PART 1. INTRODUCTION

1.1 Purpose

The Feasibility Of Stimulating Montana Exports Through Transportation Innovation study was conducted under a cooperative agreement with the Maritime Administration, U.S. Department of Transportation.

The purpose of this study was to (1) identify potential domestic and export markets and determine the means for reducing transportation costs through the innovative use of domestic waterways and waterway facilities; (2) identify institutional changes, including a state marketing program that could facilitate increased export activity.

This study was a cooperative, joint research effort between the Montana Department of Commerce, Montana Department of Agriculture, the Port of Montana at Butte, and the Maritime Administration, U.S. Department of Transportation. Consultant assistance was procured subject to contract awarding procedures of the State of Montana from Phillips Cartner & Co., Inc.

1.2 Background

The State of Montana has been engaged in an ongoing program of economic development in which selected business, mining, and agricultural activities have been targeted as a means of improving the overall economic base of the State.

Montana has within its boundaries a variety of natural resources, including grain, coal, petroleum, timber, ores, livestock, phosphates, and minerals. Most of the State's

manufactured products are derivatives of these resources. In seeking an expanded market for its resources and products, the State has been looking increasingly to foreign buyers. In the past, the State has not fully exploited the foreign export market because of high transportation costs and unfamiliarity with export activities.

Montana's dedication to more fully take advantage of foreign export markets and promote economic development of the State has been largely exhibited by the following organizations:

Montana International Trade Commission - The Commission located in Helena, Montana is a private, nonprofit economic development corporation organized for the purpose of expanding business, income and employment. The Commission works to increase manufacturing, processing and expansion of regional, national, and international markets for Montana's resources, products, commercial services, and technology. International activities of the Commission include increasing Montana's exports and attracting foreign investment.

Port of Montana - The inland port located in Butte, Montana is an import/export shipping facility that specializes both in containerized cargoes received by rail directly from several coastal ports and in products to be containerized in Butte for export shipment. The port offers consolidation services for foreign shipments and has warehousing facilities available.

Great Falls Foreign Trade Zone - Located at the Great Falls International Airport, the Foreign Trade Zone was granted to the Economic Growth Council in Great Falls, Montana. The purpose of the zone has been to stimulate international commerce by taking advantage of provisions

that defer, eliminate or reduce duties on commodities and merchandise imported into the United States.

State of Montana - The Montana Department of Agriculture through its Agricultural Development Division provides export information to Montana agricultural producers. In addition, the Business Assistance Division of the Montana Department of Commerce provides export assistance to firms in the State interested in the marketing and exporting of their products overseas.

Montana Legislature - During 1985, the Montana State Legislature passed House Bill 858 which provides for the establishment of local and regional port authorities, tax levies for operation, port commissioners, powers, issuance of bonds, rules, acceptance of federal aid and county and municipal cooperation in regard to port operation.

Historically, domestic waterways have played an important role in development of the State of Montana. The original exploration of the State by Lewis and Clark was accomplished through navigation of the Missouri and Yellowstone Rivers. The first steamboat reached Fort Benton, Montana, on the Upper Missouri (immediately North of the city of Great Falls), in 1860. In 1867, thirty-seven steamboats navigated the Missouri River to provide service to Fort Benton. During the period of the 1860's and 70's, steamboat transportation was the primary means of moving machinery and equipment into the Montana territory and the only practical means of moving resources and products to eastern markets. Eventually, however, railroads and the damning of the Missouri River brought an end to steamboat navigation within the State of Montana.

Although waterway transportation no longer reaches directly into the State, it continues to offer potential transportation savings for many of the State's resources and

products through transshipment at Great Lakes and inland ports outside of the State, such as Duluth/Superior and Lewiston, Idaho. Inland ports of entry such as the Port of Montana located within the State also benefit from waterway transportation savings. Water transportation, with its affinity for bulk, high-volume cargoes, is particularly suited to Montana resources.

The inland waterway systems most suited to movement of Montana resources and products are the Snake/Columbia River System on the west and the Great Lakes and Mississippi River Systems on the east. Table 1.1 and Figure 1.1 illustrate the approximate distance from Lewistown, Montana, located in the center of the State, to Montana's nearest port and water transportation facilities.

Table 1.1
Distance to Montana's Water and Port Facilities

<u>Port</u>	<u>Mileage</u>
<u>Northwest</u>	
Columbia System	
Lewiston, Idaho	491
Portland, Oregon	818
Seattle, Washington	752
<u>Great Lakes System</u>	
Duluth/Superior	884
Milwaukee	1,193
Chicago	1,264
<u>Mississippi System</u>	
St. Paul	877
New Orleans	1,926
<u>Southwest</u>	
San Francisco	1,198
Los Angeles	1,253
San Diego	1,315
<u>East</u>	
New York	2,065
Baltimore	1,937
Norfolk	2,099

Source: Household Goods Carrier's Bureau, Agent, Joseph M. Harrison, President, 1611 Duke Street, Alexandria, VA. 22314, May 31, 1985.

MONTANA'S WATER AND PORT FACILITIES

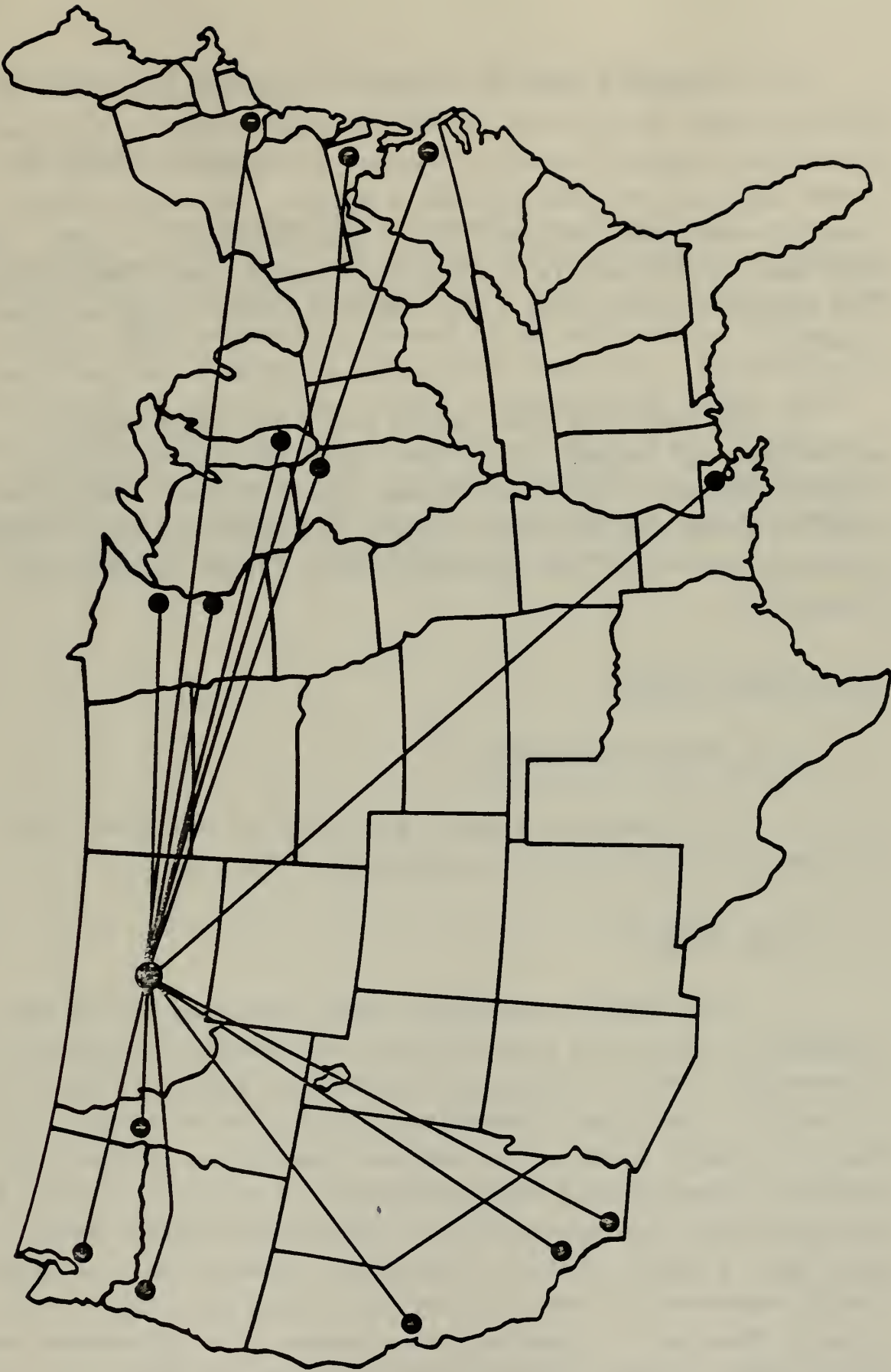


FIGURE 1.1

The Columbia System is attracting increasing volumes of Montana wheat which moves by motor carrier from the Highline and Golden Triangle areas of Montana to Lewiston, Idaho and other ports on the Snake/Columbia System. Over one million tons of wheat were shipped out of Lewiston alone in 1981. At the same time, there is a growing container trade developing on the Snake/Columbia (over 5,000 TEU's passed through Lewiston in 1980.)

On the east, the Great Lakes ports of Duluth/Superior, Milwaukee, and Chicago offer the best potential for moving Montana products into the European export market. Resources such as grain and coal can be moved via Lakers to the lower St. Lawrence where they are transshipped to large, ocean-going vessels.

1.3 Report Format

1.31 Executive Summary

An executive summary providing an overview, major findings and conclusions is presented in Part 2.

1.32 Report

The report content has been organized in the same sequence of events as that in which the research project was undertaken. Part 3 - Montana Products for Export is Task No. 1; Part 4 - Key Export Commodities and Products is Task No. 2; Part 5 - Target Markets for Montana Commodities is Task No. 3; Part 6 - Target Market Characteristics is Task No. 4; Part 7 - Montana Export Transportation Corridors and Maritime Assets is Task Nos. 5 and 6; Part 8 - Innovative Alternatives for Reducing Transportation Costs is Task No. 6; and Part 10 - Action Plan is Task No. 7. The Part 10 - Action Plan culminates the study with a number of marketing and transportation

recommendations designed to improve Montana exports.

1.33 Methodology

In the Appendices - Appendix A, a special methodology section has been written for the purpose of assisting other states should they decide to undertake a similar type of study. This section is devoted to an explanation of the methodology employed while performing the study. Included is a description of each project task, an explanation of how each task was accomplished, and a critique of each task in terms of its contribution towards the project's objective. Concluding the section is a summary of general observations and recommendations concerning the overall study process.

PART 2. EXECUTIVE SUMMARY

2.1 Overview

2.11 Introduction

The primary objectives of this research study are to identify potential export markets; determine the means for reducing export related transportation costs; examine innovative applications for domestic waterways and waterway facilities; identify institution changes; and develop a State marketing program that can facilitate increased export activity. Due to funding and time constraints, the identification of domestic markets as a study objective was excluded with main concentration centered on potential overseas markets.

The study was a cooperative, joint research effort between the Maritime Administration of the U.S. Department of Transportation, the State of Montana, and the Port of Montana.

The Maritime Project was initiated, organized and administered by the Transportation Division of the Montana Department of Commerce. Project assistance was provided by the Business Assistance Division of the Montana Department of Commerce, the Montana Department of Agriculture and the Port of Montana. The Project Consultant provided technical direction and preliminary input for each study task.

2.12 The Project

The intent of Task No. 1 was to identify those commodities

and products that were found to have a potential for export and to develop a catalogue of Montana industries interested in expanding foreign export activity.

The Project Team conducted 203 interviews in the Spring of 1984 requesting information from producers and shippers relative to current export activity, potential export opportunities, familiarization with State and federal export assistance programs, and knowledge of Montana export facilities. (Refer to interview-questionnaire form in the Appendices - Appendix B.) Montana products and commodities of those producer/shipper firms interviewed included the following:

Agricultural

Livestock
Meat and Meat Products
Dairy Products
Fish
Grain
Fruits and Vegetables
Animal Feed
Hides and Furs
Wool
Logs and Lumber
Nursery Stock & Seeds
Apiare Products
Christmas Trees &
Decorations

Nonagricultural

Beverages
Processed Foods
Wood Products
Clothing
Veterinary & Medicine Products
Scientific Instruments
Printing and Publishing
Ores
Coal
Petroleum
Copper & Aluminum
Concrete & Clay Products
Chemicals & Fertilizers
Engine Machinery
Industrial Machinery
Electrical Machinery
Agricultural Machinery
Fabricated Metal Products
Transportation Equipment
Computers
Telecommunications
Recreational Equipment

The object of Task No. 2 was to prioritize those Montana commodities and products found during the interviews in Task No. 1 to have export potential. By prioritizing these products, the remaining study effort was concentrated on export items that have the greatest positive impact on the State and the highest potential for successful movement.

A decision matrix was used in determining key Montana export commodities and products and is included in Part 4 - Figure 4.1.

The Maritime Project Team with the assistance of the Project Consultant made a final selection using the matrix to determine the research study's priority products and commodities which are listed as follows:

1. Logs and Lumber
2. Animal Feed
3. Wood Products
4. Meat and Meat Products
5. Chemicals and Fertilizers
6. Fabricated Metal Products
7. Grain
8. Livestock
9. Fruits and Vegetables
10. Ores
11. Copper
12. Hides and Furs
13. Agricultural Machinery
14. Wool
15. Coal

Task No. 3 matched the priority export commodities and products with the most likely overseas markets. A decision matrix prioritizing target markets and appears in Part 5 - Figure 5.2. The decision matrix prioritized each country according to five criteria. These five criteria consisted of: (1) previous imports from Montana; (2) one of the Worlds top five consumers of commodities of products produced in Montana; (3) close geographic proximity to Montana; (4) water transport involved and accounts for a significant portion of the landed cost; and (5) affinity with with State and recent exchanges or

indications of interest. The following countries were selected as top export potential countries:

<u>Pacific Rim</u>	<u>Europe</u>
Japan	United Kingdom
Korea	Germany
China	Netherlands
Australia	
Taiwan	<u>Optional</u>
Singapore	Canada
Hong Kong	Mexico

In an effort to develop precise strategies for transportation and marketing the purpose of Task No. 4 was to gain in-depth information on selected target markets. This effort required interview teams to travel overseas to selected target markets in order to obtain specific market information.

The Montana Export Market Survey (refer to Appendix G) was designed to obtain specific data on names of purchasing companies or government organizations; normal terms of purchase; trading customs; quality standards; shipment size; customs duties and quotas; nontariff barriers; current supplies; and acceptable price ranges. In Task No. 3 it was determined that three world areas would be interviewed:

- (1) North Pacific - Japan, Korea, Taiwan
- (2) South Pacific - China, Hong Kong, Singapore
- (3) Europe - United Kingdom, Netherlands, Germany

Prior to commencing each trip, a copy of the Export Market Survey was mailed to firms and embassy officials to be interviewed. Each team for the most part interviewed only one firm associated with one commodity group in each country due to time constraints. Team No. 1 traveled to Japan, Korea and Taiwan from March 11-21, 1985. Seven (7) interviews covering grain, hides and furs, feedstuffs, and talc took place in Japan. Four (4) interviews covering log and lumber products,

wheat, meat, and grain took place in Seoul, Korea; and seven (7) interviews involving wheat, barley, meat, hides and furs, and wool were conducted in Taiwan.

Team No. 2 departed on April 28, 1985 and conducted interviews through May 12, 1985. They interviewed eight (8) government purchasing agencies in China, eight (8) importing firms in Hong Kong and four (4) firms in Singapore as well as appropriate U.S. Embassy personnel. Interviews covered logs, lumber, hides and grain products.

Team No. 3 traveled to the United Kingdom, Netherlands and West Germany from April 12-29, 1985. Five (5) interviews were conducted in London relative to wood products, grain, animal feed and ores. Eight (8) interviews were conducted in the Netherlands which involved grain, coal, meat and meat products, hides and furs, wood products, and animal feed. Seven (7) interviews were conducted in Hamburg, West Germany concerning meat, seeds, coal, grain, and animal feed.

The purpose of Task No. 5 was to identify transportation corridors and evaluate the transportation costs and alternatives for moving commodities and products to key markets.

Each travel team prepared summaries of the Export Market Survey information they obtained in their assigned countries. The summary included a country table describing commodity prospect, annual import quantity, delivered price, transport cost as a percent, typical destination, typical shipment size, frequency of shipment, typical configuration, estimate of best percentage of market U.S. can expect, estimate of best percentage of U.S. market Montana can expect and most important transportation factor.

Of those commodities determined to have a moderate to high prospect, the contractor identified the alternative means

of transport for each market. A total of forty alternative transportation routes were analyzed.

Each alternative route was examined in terms of transportation costs from point to point. Local drayage, carrier rates, elevation rates, stevedoring rates, and other relevant charges were established by route. These transport charges were then totaled for each alternative and added to the product cost to determine the Montana delivered cost for each market.

Task No. 6 involved analyzing innovative methods with respect to improving the efficiency and cost of the transportation of Montana exports.

The objective of this task was to determine which routes were subject to significant total cost reductions through the substitute use of waterway or marine assets, or through improved efficiency in the use of marine assets. Substitute transportation waterway routes were selected comprising of the Snake River/Columbia System, Great Lakes and Missouri-Mississippi System. An analysis and comparison of available water transportation opportunities was made with respect to the land transportation route alternatives described in Task No. 5. Coal, wheat, barley, and softwood lumber were the Montana products selected for this analysis comparison.

On key selected routes, consideration was given to exploiting backhaul routes, double-stacking containers, consolidation (with an export trading company), and using innovative methods of loading containers.

The objective of Task No. 7 was to translate the findings of the previous six tasks into an implementation or action plan, which had two specific elements: (1) transportation; and (2) marketing.

The Transportation Action Plan addresses measures that would have to be taken in order to realize the efficiencies necessary to ensure that Montana products can be delivered to foreign markets at a competitive price.

The marketing action plan developed by the Agricultural Development Division of the Montana Department of Agriculture and Business Assistance Division of the Montana Department of Commerce recommends steps that should be taken by Montana government and industry to market commodities and products overseas.

2.2 Major Study Findings

2.21 Producer/Shipper Interviews

- (1) For the most part, Montana products and commodities are price sensitive.
- (2) Many of Montana's smaller shippers are unaware of national and State foreign trade programs, have little background in export activities, and are not organized or staffed to initiate meaningful export programs.
- (3) Some of Montana's larger shippers have had exposure to export markets, but have a general lack of export knowledge. Also, the larger companies are often headquartered outside of Montana and may not be sympathetic to Montana export objectives.
- (4) Often Montana exports are handled by middlemen or brokers who have directed contact with the market and draw from a number of potential suppliers. As a result, Montana shippers often do not have direct contact with the market and cannot respond directly

to market requirements.

- (5) Many producers need financial assistance in order to export their product or products.
- (6) There is little or no international banking expertise in Montana which is a significant obstacle to export development.
- (7) Many Montana products such as wool lack an in-state marketing organization.
- (8) In some cases foreign import regulations discriminate against Montana products.
- (9) The strength of the U.S. dollar has made some Montana products noncompetitive in some markets.
- (10) Based upon the results of shipper interviews conducted in Montana, a need was found to further identify domestic markets.
- (11) Shipper interviews indicated two major export countries which were not part of this study and should be studied. They are Canada and Mexico.

2.22 Market Factors

Canada is one of Montana's best export markets for commodities other than grain and lumber based upon a ranking system used during the study. Other than Canada, the Pacific Rim and Europe provide the greatest export potential for Montana. According to the Montana Export Market Survey, countries importing Montana type products with a moderate to high export potential exclusive of transportation costs include:

Pacific Rim

Japan - wheat, talc, hides
animal feeds

Korea - wheat, wood products,
coal

China - timber, hides

Taiwan - wheat, barley, hides,
beef, wool

Singapore - beef, wheat, talc

Hong Kong - beef, potato products,
wheat, feed grains

Europe

United Kingdom - lumber
beef

Netherlands - coal, lumber
meat (offal)

West Germany - meat
products, oilseeds

Key market factors identified were:

- (1) Montana and Montana products do not have a strong identity in overseas markets. Those efforts that have been initiated by the State are often overshadowed by states with greater resources.
- (2) The cost of Montana's products overseas is impacted by the U.S. dollar exchange rate. In the past, the strong dollar has priced U.S. products out of some markets. The predicted decline in the value of the U.S. dollar will improve the market for Montana products. In some cases, a relatively small increase in the value of a foreign currency against the dollar would make Montana products competitive. For instance, the study determined a 5.5 percent change in the relationship between the pound and the dollar would make Montana meat competitive in the United Kingdom.
- (3) There is a need to have agents based in Southeast Asia and Europe to represent Montana's producers and products.
- (4) Most of the consulates and embassies overseas maintain libraries for interested parties, including business

firms. Many of these libraries do not contain publications on Montana or its products.

- (5) The Montana Departments of Commerce and Agriculture should subscribe to European and Asian trade publications which publish the price and demand for Montana products.
- (6) There is a need for the Montana Departments of Commerce and Agriculture to increase emphasis on Europe as an export market in addition to Canada and the Pacific Rim.

2.23 Export Market Commodity and Product Findings

Specific market commodity and product related findings determined from the Export Market Survey include the following:

Pacific Rim - General

- (1) There has been an interest and movement of U.S. malting barley and/or barley malt into Asia. This may, in the near future, become an export market for Montana malting barley.
- (2) There is a very high demand for industrial chemicals in Singapore, but Montana does not currently have producers of chemicals such as hydrochloric acid, polypropylene, phosphoric acid, potassium hydroxide, and acetone who are in a position to export these products.

Pacific Rim - Japan

Grain

- (1) The quality of white wheat from the U.S. is not comparable to Canadian or Australian wheat because of high levels of dockage content which causes protein shortage

and heat damage.

- (2) All Asian countries look to Japan as a leader in wheat purchases; therefore, special efforts should be made to ensure delivered grain meets purchase agreement specifications.
- (3) The importation of barley, rice and wheat is controlled by the Japanese Government. These commodities cannot be imported by private Japanese firms.
- (4) Montana malt may be entering Japan as an import. In beer making, malt is imported, not barley.

Talc

Montana has moderate potential for exporting high grade talc into Japan. Currently it is more cost efficient for Japanese importers to bring in lower grades of talc from India and Australia for refining.

Hides

- (1) The potential for exporting cowhide and deerskin from Montana is very good. However, there needs to be a moderate sized beef processing plant established somewhere in the State, and a tannery for both cattle and deer hides.
- (2) Tanned deerskin could be an excellent export product given the fact that a fresh hide is worth \$3.00 while a tanned hide sells for \$3.15/sq. ft. in Japan. Deerskins are now being purchased from New York and air-shipped to Japan. This market deserves additional analysis.

Animal Feed

Animal feed is a good potential market for Montana during years of average rainfall. Beet pulp, sun-cured alfalfa pellets, and hay cubes are currently being exported to Japan from North Dakota, Oregon and California.

Pacific Rim - Korea

Grain

Australia, Canada and Argentina have systems of calculating dockage content that favors the customer. In addition, these countries clean their wheat prior to shipping. As a result, Montana wheat is not competitive on a quality basis.

Wood Products

In Korea, ninety-nine percent of all natural resources are imported. The U.S. is the second leading supplier of wood products behind Malaysia. Pine from the Northwest U.S. could open up in the near future. Furniture industry is on the upswing in Korea.

Pacific Rim - Taiwan

Hides

Lamb, sheep, deer and elk skins are purchased finished. A quality tannery in Montana for wild game skins could have a market. Shayne Industries in Taipei is a small company, but it imports two million square feet of skins per year from Korea alone.

Grain

- (1) Taiwan considers Montana wheat as high quality because of climate and soil. Taiwan especially likes fourteen and one-half percent spring wheat (DNS) from Montana.
- (2) Dockage content in U.S. wheat is too high. The dockage computation system in the U.S. must be changed.
- (3) U.S. now has a surplus of rice which cannot be exported because of the U.S. Rice Millers Association and Growers lobbying efforts to restrict rice imports. This could affect the importation of U.S. wheat into Taiwan. Wheat blended with rice is the coming thing.
- (4) Montana barley is facing stiff competition from Australia and Canada. Barley is imported as animal feed for poultry and hogs. Increased corn importation will adversely effect U.S. barley sales.

Wool

- (1) Taiwan imports significant quantities of lambs wool, approximately sixty percent from Australia. Montana would have a moderate chance of exporting wool if two conditions existed:
 - a. Development of an in-state wool collection point and warehouse. Currently, Montana wool is being stored in Belle Fourche, South Dakota and Minneapolis, Minnesota.
 - b. Liberalization of import quotas for wool garments into the U.S. would open raw wool exports to Taiwan.

Pacific Rim - China

General

The opening of the four special development zones and fourteen open coastal cities to foreign investment is going to cause China's trade to expand substantially in the next ten years.

Timber and Wood Products

There is a market in China for western style housing for western businessmen and diplomats which appears to have a promising immediate demand. This could be a market for prefabricated Montana log homes.

Hides

There is a considerable demand for hides in China.

Pacific Rim - Singapore

Wheat

There is a high demand for wheat. The U.S. is the primary source of wheat for flour millers in Singapore. A small amount of wheat is purchased from Australia due to its proximity, and from Canada, due to its quality.

Talc

Most of the talc processed in Singapore is purchased from the PRC (China Mineral) and South Korea. The U.S. at this point in time is not price competitive, but the talc buyers in Singapore are aware of the superior quality of the talc that is available in the U.S.

Meat and Meat Products

Singapore appears to be a high prospect for choice beef. Several countries around Singapore depend on beef suppliers in Singapore to supply them with high quality restaurant cuts.

Pacific Rim - Hong Kong

Meat and Meat Products

Choice beef has a good prospect in the Hong Kong market. Imports of U.S. beef are of better quality than meat imported from Brazil, China, Australia, New Zealand, and Argentina. Hotel restaurants are the largest purchasers of U.S. beef in Hong Kong.

Wheat

The U.S. has supplied approximately eighty percent of Hong Kong's wheat for the past twelve years (eighty-nine percent in 1984) and would be considered a high prospect. Canada is the only major competitor for this market.

Animal Feed or Feed Grains

Hong Kong is not considered to be a significant importer of feed grains and is a moderate prospect. Alfalfa is the only product that feed manufacturers in Hong Kong are interested in purchasing. The U.S. and Canada are Hong Kong's two major suppliers of alfalfa.

Europe - General

- (1) In the European Economic Community (EEC) unemployment runs between ten and fifteen percent. For this reason, in most EEC countries there is no levy, tax or duty on

imports such as raw timber or ores that the EEC can add value to form a product.

- (2) The EEC countries' farm lobby is more effective for wheat and beef than any other commodity.

Europe - United Kingdom

Meat and Meat Products

There appears to be a moderate prospect for choice beef and a high prospect for offal/variety meats. Currently the U.K. and EEC restricts the import quota of U.S. beef (carcass or chilled beef) to 10,000 metric tons and charges a twenty percent import duty on the C.I.F. price. There is no import quota on offal/variety meats. All packing plants would have to be EEC inspection certified and cut to European meat specifications.

Wood Products - Softwood Plywood

The European Community has a softwood plywood quota of 600,000 cubic meters of which the United Kingdom's share is 238,000 cubic meters. Unfinished softwood lumber exceeding five mm in thickness is duty free. It was estimated that the prospect for softwood unfinished and plywood is moderate to high.

Europe - Netherlands

Coal

According to the American Consulate in the Netherlands, steam coal demands in the Netherlands will increase by 100 percent during the next twelve years. Imports of steam coal should go from 4.3 million tons in 1983 to nine million tons in the year 2000. When the market

revives there may be an opportunity to increase sales of U.S. steam coal with a sulphur content not to exceed 1.5 percent. It is estimated the coal market in the Netherlands represents a moderate to high prospect.

Wood Products, Lumber

There appears to be a moderate to high prospective market for rough softwood. There are no quota requirements for unfinished softwood. In 1984, 6,000 cubic meters of rough softwood came from Sweden, 750 cubic meters from Canada, and 750 cubic meters from the U.S.

Meat and Meat Products

- (1) Because of the current economic situation in Europe, a large increase in beef imports is not foreseen. The Dutch people normally prefer pork to beef. Most beef currently imported in the Netherlands is high quality beef used in hotels and restaurants. In the current market, the U.S. is the largest supplier of offal/variety meats (livers, hear, tongue).
- (2) With respect to U.S. beef, the Europeans are not used to large amounts of animal fat. Holland importers are satisfied with U.S. beef quality except for the American practice of shipping thirty percent nonquality beef with quality beef. Because of the EEC requirement to reduce dairy herds, beef slaughter of culled dairy animals is high in the Netherlands, therefore, reducing demand for import beef. It is estimated there is a moderate prospect for choice beef and a high prospect for offal/-variety meats.

2.24 Export Market - Transportation Cost Evaluation

Findings

Based on transportation cost information which does not include waterway options, six market areas show significant potential for Montana exports. There are:

- Bituminous Coal - Korea
- Barley - Taiwan
- Softwood Lumber - United Kingdom
- Softwood Lumber - Netherlands
- Softwood Lumber - Peoples Republic of China
- Hides - Peoples Republic of China

Other market areas in which Montana has a moderate cost advantage are:

- Wheat - Japan
- Wheat - Hong Kong
- Prime and Choice Beef - Hong Kong
- Prime and Choice Beef - Singapore

2.25 Producer Determined Transportation Factors

- (1) Because of geographic distance and transportation infrastructure disadvantages, Montana producers and shippers are in need of lower transportation rates and improved transportation service to better compete in their respective markets.
- (2) Unfortunately, most of Montana does not have rail competition sufficient to compel the lowest practical rates. It was estimated that through container rates from Montana may carry at least a twenty percent penalty due to a lack of competition.
- (3) Because Montana export shipments are either small, sporadic, or from relatively inexperienced shippers, State products are often penalized with top-of-the-scale

freight rates and/or equipment positioning costs.

- (4) There is evidence that some small shippers have been exploited by shipping service professionals. These experiences have discouraged further involvement in foreign trade.
- (5) Montana producers and shippers with experience exporting to Canada have concluded:
 - (a) A trucking barrier exists at the Canadian border for private motor carriers which restricts the movement of commodities.
 - (b) The lack of uniform truck regulations between the U.S. and Canada tends to act as a barrier.
 - (c) There is a lack of refrigerated trucking in Canada according to the Montana dairy industry.
 - (d) Business hours should be extended at the Sweetgrass Couitts Canadian border customs station.
- (6) The Ports of Seattle and Portland do not have the facilities to handle Montana sulphur in bulk form.

2.26 Study Determined Transportation Factors

- (1) The benefits of inland water transportation are somewhat mitigated by the lack of access to navigable water transportation systems in the immediate vicinity of Montana. Consequently, Montana commodities which are transported via inland waterway still must be hauled via rail or motor carrier for a significant portion of their routes.
- (2) Since inland westbound routes are relatively short, the reduced inland water transportation rates are not able to fully compensate for additional handling costs associated with transshipment between modes.

- (3) The advantages in inland water transportation are most apparent on longer eastbound routes.
- (4) Under existing costs and exchange rate condition, inland water transportation via the Great Lakes is the only alternative which permits Montana coal to be shipped to West Germany and the Netherlands at a competitive cost. This is also true for Montana softwood lumber being shipped to the United Kingdom and the Netherlands.
- (5) On westbound routes, inland water transportation segments assisted in providing a lesser delivered cost than the existing sources for coal to Korea, grain to Japan, Hong Kong and Taiwan, and lumber to China. However, the inland water alternatives, on a cost basis, are more expensive at this time than rail alternative on all the westbound target areas which were analyzed.
- (6) Rates for inland water transportation, particularly along the Mississippi River, are very depressed at present because of extensive overcapacity plaguing the barge industry. Although some gradual increases in rates should be expected as barges are retired from service, no major increases in inland water transportation costs are anticipated in the near future.
- (7) Montana's prospects for attracting new industry which would in turn stimulate private investment in transportation infrastructure and attract innovative and cost effective new services are not bright in the foreseeable future. During a period of unprecedented reverse investment and mass industrial relocation in the U.S., Montana is being bypassed in part due to a perceived antibusiness climate that includes concerns over unitary tax, environmental issues, and entrenched trade unionism.

- (8) Although Montana shippers have traditionally been oriented toward the use of West Coast ports, they must become more flexible and be prepared to use East, South, Gulf, and Great Lakes ports as necessary.
- (9) There is a need for a public or private agency in Montana to provide local shippers with intermodal shipping cost estimates.
- (10) The Staggers Act and Shipping Act of 1984 both allow for contract rates. As a result, many larger preferred shippers are now enjoying low contract rates for both rail and ocean carriage. These lower rates are not available to many Montana shippers because of their low volumes and/or limited experience in export shipping.
- (11) There is a need for freight consolidators in Montana that can accumulate enough cargoes to negotiate volume rates.
- (12) Montana does not attract large numbers of transportation facilitators and innovators such as freight forwarders, and nonvessel operating common carriers (NVOCC) because of its small population and small industrial shipper base. As a result, there is a limited pool of transportation and foreign trade professionals that can provide services to Montana shippers.
- (13) Because of the current imbalance in trade with the U.S. there is more transportation capacity being used inbound to the U.S. than outbound to trading partners. This is particularly true in trades where high-value consumer goods and industrial components are being shipped into the U.S. in containers. These empty containers must be returned to Pacific Rim and European countries. As a result, there are opportunities to negotiate low rates for cargoes that can be carried in these returning

containers.

- (14) Forest products from Washington and Oregon (log, lumber and plywood) have enjoyed reduced freight rates to the Pacific Rim by using empty returning containers. Unfortunately, some carriers are now restricting the carriage of forest products because of damage incurred during loading and unloading. There is equipment currently available that can eliminate this damage.
- (15) The double-stacking technology, which has allowed reductions in rail rates of up to forty percent on through international movements, is probably not available to Montana shippers. The volumes of industrial and consumer goods with origins and destinations in Montana is too small to justify the investment in double-stacked cars. Also, it is unlikely that the Burlington Northern and/or lessor-owner ocean carriers would find it cost-effective to sidetrack unit trains of empty westbound containers on double-stacked cars to accommodate Montana shippers, at least while double-stacked units remain in short supply.
- (16) Inland waterway services are available for Montana shippers using West Coast ports by transshipping to the Columbia-Snake River System at Lewiston, Idaho. Existing costs on this system are extremely close to the costs of using through rail service for the cargoes examined in this study. This suggests that the Columbia/Snake River System is exerting competitive pressure on rail rates and keeping them lower than they might otherwise be in the absence of barge service. It is important, therefore, that Montana shippers continue to use the Columbia/Snake River System and encourage any investment which would improve the efficiency of the System.
- (17) Montana shippers have tended to overlook the potential

for using inland waterways servicing the Great Lakes and Gulf ports. The study shows that for certain products, such as lumber and coal to Europe, the Great Lakes provides the lowest cost routing. This suggests the need for closer cooperation with Great Lakes ports and more emphasis on European buyers.

- (18) As with the subsidation of rail shipping costs in Canada, consideration should be given to the possibility of transportation subsidies in Montana.

2.3 Conclusions

The purpose of the Action Plan is to translate the previously described findings of the study into implementation strategies aimed at stimulating Montana exports. The Action Plan consists of two elements: (1) marketing; and (2) transportation. The marketing action plan specifies actions that should be taken by Montana government and industry to assist in the marketing of commodities and products overseas. The objectives of this proposed plan are to obtain a substantial increase in export sales growth and diversification of Montana's economic base, and new employment opportunities for Montana residents. The transportation action plan addresses those steps that would have to be taken in order to realize the efficiencies necessary to ensure that Montana products can be delivered to foreign markets at a competitive price.

The recommended actions presented were formulated through a comprehensive analysis of research findings and are offered without a complete analysis of political or financial feasibility.

2.31 Marketing Action Plan

The following presents a summary of the Marketing Action

Plan recommendations found in Part 10.

The major problems or unknowns that are keeping most small to medium sized companies out of foreign markets are the uncontrollable elements of the business environment found in foreign countries. These problems include structure of distribution; competitive, economic, political, and cultural forces; levels of technology; geography; and infrastructure.

2.311 Producer/Shipper Needs and Opportunities

The Agricultural Development Division of the Montana Department of Agriculture and Business Assistance Division of the Montana Department of Commerce currently are able to provide limited assistance in the following items (1) through (5) due to limited resources.

(1) Protective Restrictions

Protective restrictions in foreign markets should be identified in order to allow Montana firms to expand into these protected markets. This is especially true for agricultural related markets which normally face higher levels of protectionism.

(2) Marketing Plan

Whether a Montana company is ethnocentric, polycentric, regiocentric, or geocentric, the firm will need to redevelop its marketing strategy on an ongoing basis. Most Montana companies need assistance in their marketing strategy because no one individual has sufficient marketing background in the company, or has an established marketing budget.

(3) Product Standardization

Many Montana companies have difficulty deciding whether to go with a standardized product to be marketed abroad

or with differentiated products adapted and even redesigned for each culturally unique market. This question takes international marketing expertise that few Montana-based companies possess. Cost-revenue and cost-benefit analyses need to be done and decisions made in the hard, cold light of profitability.

(4) Distribution Network

The ultimate goal of the marketer is to insure that target markets receive products in a manner that leads to customer satisfaction. This can be a considerably difficult task when a Montana company does not identify all of the different types of distribution channels available. The following distribution channels represent the majority of the types a Montana company has to consider: export management companies, manufacturer's export agents, brokers, buying offices, selling groups, intermerchants, Norazi agents, export merchants, export jobbers, export buyers, foreign importers, export trading companies, agents, factors, manufacturer's representatives, managing agents, distributors, dealers, import jobbers, wholesalers and retailers. The State of Montana should consider technical assistance grants for the hiring of consultants to aid in the distribution channel selection process.

(5) Other Factors

Other factors that need to be examined by Montana companies concerning exporting are: costs, margins, channel length, distribution intensity, stocking and servicing markets, currency exchange permits, letters of credit, bills of exchange, commercial risk, political risk, foreign exchange risk, and retail price control. One area causing considerable confusion to most State exporters, in which assistance is often requested, is what export documents are required.

(6) Countertrading

Countertrading is a term used to describe transactions where a partial payment is made in kind rather than in cash. Countertrading includes four distinct types of transactions: barter, compensation deals, counter purchase, and buy-back. Montanans have virtually no experience in countertrading. Assuming no export trading companies exist or are doing business in Montana, the State of Montana might consider providing assistance relative to countertrades. Actual involvement in the transaction would be left with the private sector.

(7) Strength of the Dollar

The greatest problem affecting Montana exports today is one that is nearly uncontrollable. That problem is the strong dollar. The strength of the dollar has decreased the competitiveness of all American products abroad. Some products are more affected than others. There is relief in sight, however. In recent months, the value of the dollar has declined, but it still needs to go lower. For this particular problem, the recommended plan of action would be to lobby U.S. Senators and Representatives for a realignment of fiscal policy with the ultimate goal of reducing the value of the U.S dollar in an orderly manner being careful not to reduce its value too quickly.

(8) Joint Venture

One opportunity not many Montana firms have looked at which has a good potential of expanding their markets is joint venture. There are many reasons a joint venture would be attractive to an international marketer. A joint venture would be attractive in the following situations: (1) when it may enable a company to utilize the specialized skills of an international partner; (2) when it allows the marketer to gain access to a partner's

local distribution system; (3) when a Montana company seeks to enter a market where wholly-owned activities are prohibited; and (4) when the firm lacks the capital or personnel capabilities to expand its international activities otherwise. The Montana unitary taxing system is perceived as a real barrier to attracting joint ventures.

There is also a need in Montana to expand the market development of limited renewable resources such as agricultural products - wheat, barley, safflower, mustard, sunflower seeds, timber, cattle, beef, and sheep - and natural resources such as coal. These are relatively abundant resources that are available in Montana, but lacking in countries such as China, the Philippines, Japan, Singapore, Korea, Taiwan, West Germany, and the Netherlands. These countries are poor in resources, but rich in the human labor used to convert these resources into a finished product.

2.312 Major Recommendations Concerning the State of Montana

- (1) To help alleviate price sensitivity the State of Montana should encourage the formation of export trade facilities to represent Montana interests in international marketing and to consolidate cargoes and negotiate service contracts with domestic and international carriers.
- (2) The State of Montana should take action to improve the image of the State as a site for new business development, particularly for reverse investment.
- (3) The State should encourage foreign-trade zone development in key locations.

- (4) The State should concentrate on the expansion of companies producing value-added products in Montana.
- (5) Expand or reorganize existing State of Montana trade assistance and promotion units.
- (6) Establish Montana trade offices in western Canada, the Pacific Rim and Europe.
- (7) Investigate the impact of Montana's unitary tax.
- (8) Distinguish Montana Grain.
- (9) Conduct prospecting visits to western Canadian cities.
- (10) Actively promote the development and operation of a moderate sized beef processing plant, hide tanning facility, and warehouse/distribution center for Montana wool.
- (11) Develop a mechanism for export loans.
- (12) The State should conduct overseas trade missions twice a year.
- (13) Increase emphasis on the European market.
- (14) Provide embassies with Montana publications.

2.313 Marketing Action Items

2.3131 Marketing Strategies

(1) Japan

The Japanese market should be viewed as a long-term

rather than a quick-hit market. The entire Japanese culture moves relatively slowly. Business ventures and relationships must be slowly and painstakingly hammered into place. In addition, many Japanese industries are laced with cumbersome structures and special privileges for entrenched interests that can frustrate an ambitious marketing plan.

Educational Orientation - The educational process is a two-way street. Clearly Montana interests need to absorb as much as possible about the Japanese markets and Japan's often unique ways of doing business. Beyond that, the Montana interests should begin educating Japan concerning the desires and capabilities of Montana companies.

Initiation of this two-way street could continue with a trip by Montana company representatives in the form of a trade mission to Japan with a return trip by Japanese counterparts following as soon thereafter as feasible.

Further dialogue and printed information exchanged between Montana exporters and relevant Japanese companies, distributor companies, and trading companies would be useful for both sides.

Japanese Trading Companies - Careful attention to Japanese Trading Companies is warranted because it is sometimes the only means of entry into some Japanese markets. Accordingly, extensive time should be spent learning how to cultivate the contacts with a variety of trading companies serving potential areas of the Japanese market that Montana companies could serve.

Supermarkets and Department Stores - A delegation

should contact executives and managers of Japanese department stores. An approach to these companies is to propose a Montana specialty section in one or more of their existing stores on a trial basis. A promotion of this type would provide excellent, widespread publicity for the Montana name among a broad cross section of Japanese shoppers.

Permanent Marketing Presence - To make meaningful headway in Tokyo, more than an occasional visit is necessary. Montana industry representatives would be well advised to establish a presence in Tokyo. The possibility of establishing an offshore export trading office should be given serious consideration by the State of Montana.

Some of the specific activities to be undertaken by the offshore export trade office are listed as follows:

- (a) Identify potential target markets for Montana agricultural and nonagricultural products.
- (b) Determine price competitiveness of products to be exported taking into account transportation, insurance, financing, and any other factors that affect the overall cost of the item.
- (c) Develop markets for Montana products.
- (d) Determine the extent of promotion needed for specific products, possibly developing foreign language promotional literature and and packaging.
- (e) Establish an overall positive identity for Montana-grown and Montana-made products similar to that which has been created domestically.

- (f) Participate in foreign trade shows to promote Montana products to wholesale buyers in Pacific Rim countries. Value-added food products would especially benefit from this type of promotion.
- (g) Assist in penetrating the complex multi-layered distribution systems for agricultural products that exist in the Pacific Rim countries, especially in Japan.
- (h) Monitor and lobby for the easing of foreign import barriers.
- (i) Disseminate export information relating to laws, health requirements, import duties, tariffs, and nontariff barriers that affect the importation of specific products to Japan and nearby countries.
- (j) Provide assistance to the Montana shipper with regard to international banking, thereby eliminating a major obstacle to export development that currently exists.

Montana must establish a permanent, on-site presence that will better enable the State to monitor market developments and provide service to the predominantly small Montana exporter. Without such commitment, Montana cannot possibly compete with European, Japanese, and other U.S. competitors in Japan and the Pacific Rim.

(2) Other Pacific Rim Countries

The market for U.S. products in each of the eight Pacific Rim countries of Hong Kong, Singapore, Taiwan, Korea, Thailand, Philippines, Malaysia and Indonesia is not large by American domestic market standards, but in

combination they offer a significant export opportunity.

A key recommendation, therefore, is that the Montana companies consider establishing effective marketing representation for the Asian market. This representative could possibly be combined with the representative mentioned for Japan in the previous section. The logical base point for this Asian representation office would be Hong Kong.

2.3132 Product Marketing Actions

(1) Pacific Rim

Agricultural

- | | | |
|--|---|---|
| Japan,
Taiwan,
China | - | There is a need for a moderate sized beef processing plant in operation somewhere in the State -- a tannery could be established for both cattle and game hides. The potential for <u>hides</u> is very good. |
| Taiwan | - | Development of an in-state <u>wool</u> collection point and warehouse. |
| | - | Liberalize import quotas for wool garments into U.S. This will open raw wool exports to Taiwan. |
| Japan,
Korea,
Taiwan,
Singapore | - | The quality of <u>wheat</u> must be improved by removing the high level of dockage content which causes protein shortage. |
| Japan | - | <u>Animal feed</u> such as alfalfa pellets and hay cubes would be a good potential market. |

- Taiwan - Wheat blended with rice is a commodity which will have a good market in Taiwan and this process should be investigated as a potential industry in Montana.

- Singapore, - High quality Montana beef has a definite Hong Kong market in Singapore and Hong Kong since those countries serve as a distributor for surrounding countries. Aggressive marketing could result in high sales.

- Hong Kong - The U.S. has supplied approximately 80 percent of Hong Kong's wheat for the past 12 years and would be considered a high prospect.

Natural Resources

- Korea - The furniture industry is on the upswing in Korea and is open to an increased marketing of pine from Montana.

- China - Western style housing has a prominent, immediate demand which could be served by an aggressive Montana lumber supplier.

- Singapore - Talc buyers are aware of the high quality talc in the U.S. and would actively pursue our sources, if it were price competitive with Korea and PRC.

(2) Europe

- Europe - Since there is no levy, tax or duty on imports or raw timber or ores which the EEC can add value to, these products should have a high potential with the

appropriate marketing efforts.

United Kingdom - Unfinished softwood and plywood have good potential markets and should be pursued aggressively.

Netherlands - Montana coal, with its low sulphur content, has a potential Dutch market as that country's imports continue to increase significantly until the year 2000.

2.32 Transportation Action Plan

The transportation recommendations provide actions that should be considered to facilitate the marketing of Montana export products. These recommendations respond to producer-shipper indicated needs as well as study determined needs. The recommendations are segregated into four classifications which include land transportation, water transportation, freight handling and other. Land transportation includes recommendations for truck and rail; water transportation includes inland waterways, ports, and ocean carriers; freight handling includes freight handling facilities; and other includes recommendations not falling under the previous three categories. The following presents a summary of the Transportation Action Plan recommendations found in Part 10.

2.321 Land Transportation

Motor Carrier

- (1) With regard to Canada, there needs to be a special investigative advisory committee appointed to work possibly in conjunction with the 49th Parallel Institute which would look into the following transportation service problem areas:

- (a) A trucking barrier exists at the Canadian border for private motor carriers which restricts the movement of commodities caused in large part from the lack of uniform truck regulations with Canada.
 - (b) A lack of refrigerated trucking in Canada.
 - (c) The need to extend business hours at border stations and in particular at the Sweetgrass-Coutts customs facility.
- (2) A study should be made relative to the total deregulation of trucking in the U.S. and Montana.
 - (3) A special study should be made relative to the possibility of the elimination of the truck diesel fuel tax.

Rail Transport

- (1) The State should take action to encourage competition with the Burlington Northern. The Burlington Northern is a progressive and efficient rail carrier. However, in the absence of competition in the State, the Railroad will feel no commercial pressure to keep rates low or to introduce high productivity equipment or procedures.
- (2) With the railroad, ocean carriers and ports providing double-stack container train routes through Montana, this new technology should be monitored for possible service in the future should volumes or competition dictate.
- (3) A potential to be investigated would be Burlington Northern's new International Marketing and Sales Department. The new department will have the responsibility for sales and pricing functions related to international piggyback and container traffic as well as international

sales of conventional rail service.

- (4) An investigation should be made by the State of Montana into the possibility of rail transportation subsidies to Montana shippers to better compete with Canadian exports. Possible sources of funding this transportation subsidy would be resources related taxes.

2.322 Water Transportation

Barge-Inland Waterways

- (1) Montana shippers should be encouraged to continue to use the Columbia/Snake River System and encourage any investment which would improve the efficiency of the system.
- (2) Montana shippers, particularly for lumber and coal, should be encouraged to look at the potential for using inland waterways serving Great Lakes and Gulf ports particularly with respect to depressed barge rates on the Mississippi River.

Ports - Ocean Carriers

- (1) A government or private association needs to be organized which can assist in providing shipping information and costs relative to the use of West Coast port and East, South, Gulf and Great Lakes ports.
- (2) Greater emphasis needs be made to negotiate low rates for cargoes that can be carried in empty containers returning to the Pacific Rim and European countries.
- (3) An investigation needs to be made into the possibility of shipping sulphur and other like cargoes in bulk form through the Ports of Seattle and Portland.

2.323 Export Shipping and Management Organizations

- (1) The State should encourage freight consolidation, container consolidation, and container pools in key commercial locations in Montana.
- (2) Coordination may be developed with Burlington Northern's Intermodal Terminal operation which has a hub center at Billings with satellites at Missoula, Helena, Great Falls, and Shelby. There is a satellite of the Spokane hub in Whitefish. Hub centers are equipped with machinery to lift trailers and containers from ground to car. Possibly as volumes warrant, freight, container and container pool consolidation services could be developed in conjunction with these hub and satellite facilities.
- (3) There is an indicated need for container loading facilities in the eastern portion of the State of Montana.

2.324 Other

- (1) State Department of Commerce officials should maintain close liaison with key government and private transportation entities in other states and provinces to continually explore opportunities for reducing transportation costs.
- (2) As mentioned in the Marketing Action Plan, the State of Montana should encourage the formation of export trade facilities such as an export management company or, feasibility permitting over the long term, an export trading company or regional export trading company to represent Montana interests in international marketing and to consolidate cargoes and negotiate service contracts with domestic and international carriers.

- (3) The Montana Public Service Commission and Montana Department of Commerce, Transportation Division should be made aware of small shippers that may have been exploited by shipping service professionals which tend to discourage further involvement in foreign trade.

2.325 Transportation Action Items

- (1) The first priority is to create an organization that can consolidate cargoes and negotiate for volume transportation rates and service. Accordingly, the State should actively support efforts to form an export trade facility in Montana. Discussions should be held to determine how the State could assist in supporting the proposed trade facility financially. This may be accomplished through low interest loans and/or start-up grants during the first few years.
- (2) The recent industrial disinvestment in Montana discourages transportation investment. The State must take unusual and dramatic action to stimulate industrial development and reverse investment. The first action should be to consider repealing the unitary taxing system and offer significant incentives to both industrial and transportation investors. The Department of Commerce could consider taking the initiative in these areas by drafting and promoting the necessary legislation.
- (3) The existence of water transportation on the Snake-Columbia has a dampening effect on rail rates to deep water ports in Oregon and Washington. The State should initiate discussions with the State of Idaho on how to improve rail and truck transportation to the Port of Lewiston, Idaho. Currently, both rail and truck routes from Montana to Lewiston are circuitous.

- (4) The State should initiate positive discussions with the Burlington Northern in order to reverse the deteriorating relations between Montana and the Railroad. Industrial development is a common goal. The State might consider reducing taxes, allow operating efficiencies and abstain from litigation in exchange for new investment in transportation and industrial development.
- (5) The State should initiate discussions with the Ports of Montana, Seattle, Portland and Tacoma on joint actions to improve service between Montana and these ports. For example, Seattle serves as an agent for ocean carriers seeking rail double-stack container service inland. Tacoma also offers rail double-stack container service. Accordingly, these ports can negotiate volume rates on Burlington Northern double-stack unit trains transiting Montana. The Ports of Seattle and Tacoma may be willing to serve as an agent for Montana shippers and thereby obtain favorable rates for containers destined for export through their port.
- (6) The State should initiate discussions with the Canadian railroads to determine their interest in serving Montana locations along the Canadian border. The criteria for service should be established.
- (7) The State should begin discussions with Alberta Inter-modal Services of Calgary to determine their interest in soliciting cargoes out of Montana.
- (8) U.S. coastal seaports are aggressively competing for cargo. In many instances, they will assist shippers in routing cargoes through their ports and will give assistance in obtaining both inland and ocean rates. The State should maintain liaison with those ports that are likely to serve Montana shippers in the future.

- (9) The State should initiate a series of export marketing and transportation seminars and workshops in selected Montana locations to address foreign trade transportation problems.
- (10) Additional transportation and marketing studies should be conducted by the State relative to domestic, Canadian and Mexican markets.

PART 3. MONTANA PRODUCTS FOR EXPORT

3.1 Purpose and Procedure

The intent of Task No. 1 was to identify those commodities and products that were considered exportable and to develop a catalogue of Montana firms either exporting or interested in expanding foreign export activity. This task involved several steps. The proposed steps were to identify existing export/import commodity flows, determine Montana export/import products, resolve which firms to interview, and conduct interviews with selected firms.

3.11 Determine Montana Export Products

The task of identifying existing export/import flows from Montana was a difficult assignment. Contact was made with the Maritime Administration regarding Bureau of Census and selected Journal of Commerce data. Contacts were also made with the Port of Portland, Port of Seattle and the International Trade Administration of the U.S. Department of Commerce regarding obtaining Montana import-export data. In an effort to determine existing and potential export products, it was decided to consolidate a Journal of Commerce Piers state exporter list provided by the Maritime Administration, the Montana Department of Commerce (MDOC)/Business Assistance Division's list of Montana nonagricultural firms presently exporting or interested in exporting, and a list of agricultural firms and products developed by the Montana Department of Agriculture into one large master list. From this master list, firms could be selected for interviews. Montana products for which firms would be selected for interview are presented in Table 3.1.

Table 3.1

Products and Commodities of Montana Firms Interviewed

<u>Agricultural</u>	<u>Nonagricultural</u>
Livestock	Beverages
Meat and Meat Products	Processed Foods
Dairy Products	Wood Products
Fish	Clothing
Grain	Veterinary and Medicine
Fruits and Vegetables	Products
Animal Feed	Scientific Instruments
Hides and Furs	Ores
Wool	Coal
Logs and Lumber	Petroleum
Nursery Stock and Seeds	Copper and Aluminum
Apiary Products	Concrete and Clay Products
Christmas Trees and	Chemicals and Fertilizer
Decorations	Engine Machinery
	Printing and Publishing
	Industrial Machinery
	Electrical Machinery
	Agricultural Machinery
	Fabricated Metal Products
	Transportation Equipment
	Computers
	Telecommunications
	Recreational Equipment

3.12 Select Firms to be Interviewed

The Maritime Project Team, which consisted of representatives from each of the participating agencies, with the assistance of the Consultant reviewed and evaluated the master list using the following sources to determine which Montana firms should be interviewed:

- a. Montana Department of Commerce/Business Assistance Division's Montana Manufacturers and Products Directory.
- b. The Journal of Commerce Piers for the State of Montana.
- c. A Buyer's Guide and Export Directory for the Old West Region.

After the evaluation, the master list was pared down to 203 Montana firms which produced products of the type known to be

exported, had exporting experience or had a potential for exporting. It was found that these 203 firms did not represent all Montana export firms but did represent a significant portion of them.

3.13 Sample Size and Geographic Area

After deliberation, the Project Team decided a sample size of 100 percent would be used. Each firm on the refined master list with export potential was scheduled to be contacted for an interview.

The State of Montana was divided into six (6) regions in which each member of the Maritime Project team was to interview firms within their assigned region. For the most part, these interviews were conducted in person, however, a few were required to be conducted by telephone.

3.2 Interview Program

3.21 Questionnaire Development

Draft questionnaires were prepared by both the MDOC/ Business Assistance Division and the Project Consultant. After evaluation by the Project Team, a final questionnaire format was decided upon for use in interviewing the 203 potential export firms. The final interview/questionnaire form requested information concerning current export activity, potential export opportunities, familiarization with state and federal export assistance programs, and familiarization with Montana export facilities. (Refer to interview-questionnaire form in Appendix B.)

3.22 Interview-Questionnaire

After a training program, which consisted of team members accompanying the Project Consultant during interviews conducted

locally in the Helena area, team members conducted interviews in their respective geographic areas. The major portion of the producer-shipper interviews were conducted from April 9 through April 27, 1984. The remaining interviews were completed during May and early June, 1984.

3.23 Export Status of Firms Interviewed

As team members conducted their interviews, the completed interview-questionnaire forms were sorted and placed into one of five (5) export status categories. Table 3.2 summarizes the number of firms and percent of total firms found in each export status category of the respondents:

Table 3.2
Export Status of Montana Firms Interviewed

<u>Category</u>	<u>Firms</u>	<u>Percent of Total</u>
(1) Currently Exporting - Potential for Exporting	88	43.4
(2) Have Not Exported - Potential for Exporting	27	13.3
(3) Have Exported - Not Interested in Exporting	8	3.9
(4) Have Not Exported - Not Interested in Exporting	61	30.0
(5) Could Not Contact	19	9.4
TOTAL	<u>203</u>	<u>100.0</u>

The completed questionnaire data was used to develop an inventory of Montana commodities or products capable of being exported. Categories (1), (2), and (3) were used to develop the inventory of commodities or products to be exported.

3.3 Interview Findings

3.31 Interview Findings by Product/Commodity Group

The following provides a summary of responses with respect to the completed Interview/Questionnaires by product/commodity category. The summary combines questionnaire information from: (1) firms currently exporting and have a potential to export; (2) firms that have not exported but have a potential to export; and (3) firms that previously exported but are no longer interested in exporting. Due to the extent of the product summary, only those products selected as having a high priority ranking in Part 4 were included in this Section. The remaining products and their summary appear in Appendix C.

Agricultural Products

Livestock

- (1) According to the Montana Stock Growers Association, livestock is not a large export but has potential - shipments have been made more in the form of special shipments to the Pacific Rim countries in special containers by air. In 1983 the number of cattle exported amounted to 882 head.
- (2) This commodity is very price sensitive, needs lower transportation rates, innovative improved transportation service, financing assistance and improved market intelligence. Producer firms have not been aware of federal and State export assistance programs.

Meat and Meat Products

- (1) Three firms were interviewed in this commodity category. Two firms currently export over 500,000 pounds per year. Fresh pork products and special meat products such as beef jerky and sausage are shipped via motor carrier into Canada. Fresh pork products are also shipped by rail in containers and placed on ships destined for Japan, Korea

and Taiwan. Considerable interest was expressed to export beef halves, primals, and boneless beef cuts to Japan and other Pacific Rim Countries.

- (2) Meat products are very price sensitive. Firms in this business indicate they need financing assistance and improved market intelligence; are not aware of federal and State export assistance programs, but are aware of facilities at the Port of Butte and Great Falls.

Grain

- (1) The largest export in Montana is grain with wheat accounting for 126,191,085 bushels in 1983. Primary destinations for wheat were Japan, Korea, Taiwan, Indonesia, Philippines, Hong Kong, and India. Principal inland mode of transport is by rail, private motor carrier, and truck/barge via the West Coast. Bulk grain is shipped through brokers, is price sensitive, and reduced transport costs would help sales. Lentils are another agricultural export of Montana. Lentil brokers ship almost 800,000 pounds per year to Peru and Spain through the Puget Sound and Gulf. This product is shipped to port destinations via common motor carriers in 20 foot containers at 1.5¢/pound, is price sensitive, and reduced transport costs would help sales.
- (2) Activities needed to help the grain industry in exporting include: lower transportation rates, innovative improved transportation service, financing assistance, improved market intelligence, cost effective cargo handling, and end user education in expanding the use of grain products. The Pacific Rim is seen as a potential market for lentils and mustard seed. Shippers are not aware of federal and State export assistance programs, but are aware of the Port of Montana.

Fruits and Vegetables

- (1) The main export in this commodity group from Montana is

cherries. Approximately 700,000 pounds of cherries were exported through Treasure State Cherry, Inc. via a broker to Canada, Sweden, Taiwan, and Hong Kong. The cherries were exported through the Canadian and West Coast - Puget Sound gateways, by air, not containerized, and are price sensitive. Reduced transport costs would help sales.

- (2) Potential export opportunities include expanding their market to Japan, Norway and Sweden. They were not aware of federal and State export assistance programs and did not indicate a need for the Port of Montana or Great Falls export facilities.

Animal Feed

- (1) Present exports of animal feed include: (a) pelletized beet pulp; (b) inedible tallow, meat and bone meal; and (c) alfalfa cubes and pellets. The 1983 export volume consisted of 44,350,000 pounds. Beet pulp, inedible tallow, and meat and bone meal are by-products which are brokered by parent companies outside Montana. Primary export destinations for animal feed include: Japan, Mexico, Canada, Latin America, and Taiwan, and are shipped through the West Coast - Puget Sound, Canada, Gulf, and West Coast - Columbia/Snake River System gateways. Pelletized beet pulp, meat, and bone meal are not containerized. Inedible tallow is shipped by rail tank car, and alfalfa pellets are shipped in both 20 and 40 foot containers. Inedible tallow is shipped by rail tank car at \$2.50/cwt while meat and bone meal are shipped via common or contract motor carrier to its prospective Canadian gateway for \$30-\$35/ton. Alfalfa cubes and pellets are shipped to their respective West Coast - Puget Sound, West Coast - Columbia /Snake River System, Canada and Gulf gateways by both rail and motor carrier for \$2/cwt. Inedible tallow, meat, and bone meal are not price sensitive, but reduced transport costs would help sales. Alfalfa cubes and pellets are price sensitive and

reduced transport costs would help sales.

- (2) Major market opportunities are seen in Mexico, Canada, Central America, and the Pacific Rim countries. Of the activities needed to export, all firms indicated lower transportation rates. The two alfalfa firms were not aware of any federal export assistance programs and all four firms were unaware of any State export assistance programs. All firms were aware of the Port of Montana while only one firm knew of the FTZ in Great Falls. Suggestions for reducing transport costs included single bills of lading for overseas shipments from Montana and the need for a container loading facility in Miles City.

Hides and Furs

- (1) Cowhides, deerskins, furs, and taxidermist specialties are exported to Canada, Europe, Mexico, and the Pacific Rim countries. The primary export gateways include Canada, Atlantic North Coast, Mexico, West Coast - Portland, and Puget Sound. Cowhides and deerskins are containerized in 20 foot containers and shipped via common motor carrier. Furs and taxidermist specialties are shipped by air to Europe and Hong Kong, respectively. Taxidermist specialties are shipped through a broker.
- (2) Potential export opportunities are seen for antlers and elk tails in Hong Kong. The firms in this commodity category indicated lower transportation rates and improved market intelligence as activities most needed to export. Both firms were not aware of federal or State export assistance programs. One firm uses the Port of Montana for export of deer hides and was aware of the Great Falls FTZ. A suggestion for reducing transport costs was to delete the need and necessity clause in State trucking certification to stimulate competition and lower transportation rates.

Wool

- (1) The primary destination according to the Montana Wool Growers Association for Montana export wool is Mexico. The wool is not containerized, is price sensitive, and reduced transport costs would help sales. The principal mode of transport is private motor carrier.
- (2) Potential export markets include an expanded market in Mexico and a new market in Japan. Lower transportation rates were indicated as an activity needed to export. Montana wool growers were not aware of any federal or State export assistance programs, were aware of the Port of Montana, but not aware of the FTZ in Great Falls.

Logs and Lumber

- (1) A total of twenty (20) firms were interviewed in this commodity category of which sixteen (16) currently export, three (3) have a potential to export, and one (1) has exported but is no longer interested because of the decline in market demand. Of the firms responding over three million pounds of logs and lumber products were exported in 1983. Primary export destinations include: Canada, Japan, Pacific Rim countries, and Middle East with secondary export destinations of Mexico, Saudi Arabia, Australia, and the United Kingdom. Export gateways include: Canada, West Coast - Puget Sound, Columbia/Snake River System, Portland, and the Gulf. For the most part cedar lumber, kautz squares, raw woods, pine lumber, log homes, and fiberboard are containerized while railroad ties, siding, plywood, posts, and poles are not. Lumber shipped to Seattle by 40 foot container costs \$1.45 to \$2.33/cwt by motor carrier and rail, while log homes were shipped by 40 foot container costing \$1.73/cwt by motor carrier. For the most part firms indicated log and lumber products were price sensitive and reduced transportation costs would help sales. The inland mode of transport used most often is private motor carrier with a few log struc-

ture firms using rail and truck/barge. A number of the lumber firms use brokers for exporting, while log structure firms use freight forwarders.

- (2) Potential export opportunity markets were seen to be for lumber and posts in Canada and Australia, with special lumber (hemlock) to Northern Europe, and log structures in the Pacific Rim countries, New Zealand, and worldwide. Activities needed to export most often cited were lower transportation rates, improved market intelligence, financing assistance, and cost effective cargo handling. Few firms were aware of federal or State export assistance programs. Only a small number of firms were aware of the Port of Montana and one firm was aware of the Great Falls FTZ. The need for better and lower cost rail service, complete deregulation of trucking, need for a container pool in Montana, centralized truck load scheduling, Seattle container loading cost too high, difficult to obtain trucking in Canada without back haul, and strength of the U.S. dollar were given as problems or suggestions for reducing transportation costs.

Nonagricultural Products

Wood Products

- (1) A large export commodity, seven (7) firms were interviewed which fell into the categories of currently exporting, have exported and have a potential to export. The basic reason one (1) firm is no longer exporting is the current slowdown in the building industry. Another firm that is currently exporting, but is no longer interested indicated they were more interested in the domestic market. Of the information available three (3) firms exported approximately 892,000 pounds of wood products in 1983. Wood products from Montana include classroom furniture, chamfer, mill work, plywood, wood windows, and sewing furniture. Of those currently exporting, classroom furniture was shipped to Egypt, Saudi Arabia and Canada; chamfer to

Australia, Middle East, and Europe; and mill work and sewing furniture to Canada. Primary gateways used except for Canada, were the West Coast - Puget Sound for Egypt and Australia; West Coast - LA/Long Beach for Europe; and the Gulf for Saudi Arabia. Plywood shipped to Denmark went through the Vancouver - British Columbia gateway in 1981. Only classroom furniture was containerized which was in 40 foot containers. Classroom furniture was shipped at a rate of \$2,150/container, chamfer at a rate of \$5.50/cwt (inland), and plywood (inland) at \$1,000/truckload. With the exception of furniture most wood products are price sensitive, and reduced transport costs would help sales. Chamfer and plywood are normally shipped private or common motor carrier, while classroom furniture is shipped by rail through a broker. Mill work is shipped by both rail and motor carrier.

- (2) Potential export opportunities were indicated as follows:
- (1) classroom systems - Middle East and worldwide;
 - (2) chamfer and wood moldings - Australia, Middle East, and Europe;
 - (3) mill work and windows - Canada and Japan; and
 - (4) plywood - Denmark.
- Of activities needed to export, lower transportation rates, financing assistance and improved market intelligence most often appeared. Few firms knew of federal and State export assistance programs. About half of the firms were aware of the Port of Montana and none were aware of the Great Falls FTZ facility. Suggestions for reducing transportation costs include: (1) Canadian duties keep U.S. trade out of Canada, (2) rail rates have to be competitive to truck rates, and (3) piggyback rate on rail needs to go down, particularly with respect to shipments to the East Coast.

Ores

- (1) One (1) firm was interviewed in which their product was antimony oxide. This product is exported to the Far East, Japan, and Korea through the West Coast - Puget Sound

gateway. Antimony oxide is containerized in 40 foot containers and shipped inland to the gateway by private and common motor carrier. The product is price sensitive and reduced transport costs would help sales.

- (2) Potential export opportunities are seen in expanding the Korean and Japanese markets. Activities needed to export are lower transportation rates, innovative improved transportation service, financing assistance, and improved market intelligence. The firm was aware of few federal or State export assistance programs. Neither the Port of Montana or Great Falls FTZ facilities were known by the firm. It was suggested that State property taxes discourage mining and drilling in Montana.

Coal

Two energy related firms did not see Montana bituminous coal as a major exportable product in the current market (1984) until adequate research and technology can be developed to reduce the coal's water content and increase its BTU's.

Copper and Aluminum

- (1) Two firms were interviewed within this commodity category who export copper oxide and aluminum ingot. In 1983, 40,000 pounds of copper oxide was exported to Asia, Germany, and England and approximately 20,240,000 pounds of aluminum ingot was exported to Japan. Most of the copper oxide was exported to Germany and England through the Atlantic - New Jersey gateway. Aluminum ingot exported to Japan passed through the West Coast - Puget Sound gateway. Copper oxide was transported by private motor carrier at a cost of \$3,300/truckload and containerized in 20 foot containers. Aluminum ingot was transported break bulk (90 percent by rail and 10 percent by contract and common motor carrier). Inland transport costs for aluminum ingots averaged \$22.68/short ton with an additional port cost of \$8/short ton to band the

ingots. Copper oxide was indicated as being price sensitive, while aluminum was not. With respect to aluminum reduced transport costs would help sales, while with copper oxide it would not help sales.

- (2) Potential export opportunities exist for copper oxide in expanding their markets in England, Germany, and Asia. Export opportunities exist for aluminum in China as well as expanding their market in Japan. Activities needed to export cited by both firms included: lower transportation rates and cost effective cargo-handling. Federal and State export assistance programs were not well known by either firm. Both were aware of the Port of Montana, but not aware of the FTZ in Great Falls. A suggestion to reduce transportation costs was to create an export trading company.

Chemicals and Fertilizer

- (1) Four (4) firms were interviewed that are currently exporting sulphur and sulphur by-products, fertilizer resin, wax emulsion, cleaners and soaps, and organic fertilizer. With respect to sulphur products over 1,500,000 pounds were shipped to Canada in 1983; fertilizer resin and wax emulsion - nine million pounds to Canada; cleaners and soaps to Japan and Canada; and 80,000 pounds of organic fertilizer to the Netherlands and Japan. Primary gateways are Canada and West Coast - Puget Sound with shipments going to the Netherlands (organic fertilizer) through the Atlantic and Gulf gateways. Sulphur products are bagged and none of the products are containerized. The transportation cost of sulphur products was found to be high in comparison to its product value. Inland cost by rail and private and common motor carrier for sulphur products is \$44/ton when the product value is worth \$70/ton. Fertilizer resin and wax emulsion are shipped by common motor carrier for \$2/cwt. Cleaner and soaps are shipped inland

by common motor carrier for 4¢/pound. Organic fertilizer travels to its gateways by private and common motor carrier. Sulphur products and organic fertilizer are price sensitive. All firms indicated reduced transport costs would help sales.

- (2) In addition to the four (4) firms currently exporting, three (3) additional firms indicated an interest in exporting. The three additional firms produce lime and distillers dried grain (a by-product of gasohol). Greatest potential export opportunities are seen by all firms in the Pacific Rim countries with some market potential seen in Canada and Australia. The activities most needed for export are lower transportation rates and improved market intelligence. Few firms were aware of federal and State export assistance programs. Most were aware of the Port of Montana and only one (1) firm was aware of the Great Falls FTZ. Problems and suggestions for reducing transport costs were: (1) strength of the U.S. dollar against foreign currency; (2) Portland and Seattle will not handle sulphur in bulk form, only private port facilities will handle bulk sulphur; (3) tremendous Canadian paperwork; and (4) because of discontent with rates and service, it was indicated Burlington Northern Railroad does not want to carry freight.

Agricultural Machinery

- (1) Three (3) firms producing farm implements and large four-wheel drive tractors exported 930,500 pounds of agricultural machinery to Canada, Australia, and Kenya. Four-wheel drive tractors shipped to Australia were exported through the West Coast - Puget Sound gateway while those shipped to Kenya went through the West Coast - Portland gateway. None of the farm equipment products were containerized. Transportation costs ranged from \$1.40/mile point to point in Canada for farm implements to \$2,500/tractor unit inland cost, and \$5,200 ocean freight

for tractors. All were shipped by private or common motor carrier inland. The products were indicated as not being price sensitive, and reduced transport costs would not help sales.

- (2) Potential export opportunities for tractors were seen in the Middle East, and for farm implements in Mexico. Financing assistance and improved market intelligence were seen as activities needed to export. For the most part the firms did not know of any federal or State export assistance programs, were aware of the Port of Montana, but not aware of the Great Falls FTZ. Suggestions included: (1) extend business hours at the Sweet Grass - Coutts Canadian border station; (2) reduce transportation fuel taxes; and (3) need to provide for some type of freight consolidation mechanism which would permit trucks to carry a full load and lower transportation rates.

Fabricated Metal Products

- (1) Eight (8) firms were interviewed within this product category of which five (5) firms were currently exporting such products as steel roofing and siding, hand tools, wood stoves, steel tanks, and jewelry. In 1983, over 1,700,000 pounds were exported principally to Canada. These products were not containerized. Shipping rates varied with steel roofing and siding costing point to point (Canada) \$1.75/cwt, hand tools costing \$1.03/pound, and steel tanks costing \$2,000/load. With the exception of jewelry which is shipped by air, the other products are shipped private, common, or contract motor carrier. . Roofing, siding, and wood stoves are considered price sensitive, and all indicated reduced transport costs would help sales.
- (2) Other than the existing markets, export opportunities are seen for hardware, steel bins, penstock steel, steel tanks, structural steel, steel fabrication and drainage pipe in Canada and the Pacific rim countries. Other new

products such as skid modules with piping systems may have a market in Canada, Mexico, and South America; and aluminum windows, doors, and solar collectors in Canada, Guam and Europe. Lower transportation rates, financing assistance, and improved market intelligence along with the opportunity to present themselves to these markets were the activities needed to export. Few of the eight (8) firms were aware of federal export assistance programs, and none of the firms were aware of State programs. Almost all of the firms were acquainted with the Port of Montana and Great Falls FTZ facilities. Problems and suggestions included: (1) Canadian duties restrict trade; and (2) standardization of trucking regulations should be made.

3.32 Other Interview Findings

General export related findings documented by the project team while conducting their interviews are listed as follows:

- (A) Canada appears to be one of Montana's best export markets for commodities other than grain and lumber.
- (B) A trucking barrier exists at the Canadian border for private motor carriers which restricts the movement of commodities.
- (C) The lack of uniform truck regulations with Canada tends to act as a barrier.
- (D) The strength of the U.S. dollar has a negative effect on exporting. Recent trends have indicated the strength of the U.S. dollar has been declining.
- (E) The fairness of foreign import regulations need to be evaluated.
- (F) There is a definite need for financing assistance and improved market intelligence by Montana exporters.
- (G) There is a lack of refrigerated trucking in Canada.
- (H) The piggyback rate on rail needs to go down, especially to the East.

- (I) The Ports of Seattle and Portland will not handle sulphur in bulk form.
- (J) There is a need to extend business hours at Sweetgrass-Coutts Canadian border station.

PART 4. KEY EXPORT COMMODITIES AND PRODUCTS

4.1 Purpose and Procedure

The Task No. 2 objective was to prioritize the export potential of those Montana commodities and products which were identified in Task No. 1. As a result of time and resource constraints, the prioritizing of these commodities allowed the remaining study effort to be concentrated on Montana products that appear to have the greatest economic impact on the State and the highest potential for export. It is recommended that additional research be conducted on those Montana products and commodities not selected for this study.

A draft of the decision matrix to be used in determining key Montana export commodities and products was developed by the Project Consultant. This draft was reviewed by the Project Team and modified to include additional export commodities found to be of importance during review of the completed Task No. 1 questionnaires.

In order to any reduce bias, each Project Team Member conducted three separate rankings, one for each of the three export categories: (a) products of firms currently exporting with a potential to export, (b) products of firms not currently exporting with a potential to export, and (c) products of firms that have exported but are not now interested in exporting. The main emphasis was given to those commodities ranking high on the list of firms currently exporting and have a potential to export. This was considered the primary commodity list. The second list, firms not currently exporting with a potential to export, and the third list, firms that have exported but are not now interested in exporting, were used in establishing the final ranking of commodities in the primary list.

4.2 Parameters and Decision Matrix

Figure 4.1 presents the final decision matrix used in Task No. 2. Six parameters were used to rate each existing and potential export commodity. The parameters decided upon as having primary importance included:

- (A) Currently Being Exported - those commodities currently being exported;
- (B) Transport Price Sensitive - those products in which the transportation costs can cause the product to be noncompetitive in the market place;
- (C) Potential for New Jobs - ability of the product to generate new jobs in the State of Montana;
- (D) Potential for In-State Revenue - ability of the product to generate income into the State of Montana.
- (E) Emerging New High Potential Industry - the product could generate new industry within the State; and
- (F) Compatibility with State - a product that is in accord with Montana's environment, resources, existing industries, etc.

Each agricultural and nonagricultural commodity was ranked with respect to each parameter on a scale of 1 to 5 with the lowest being 1 and 5 the highest. The Project Team's aggregate rankings of each commodity for export category (A), products of firms currently exporting and have a potential to export, appear in Figure 4.1.

4.3 Conclusions

The final outcome of the decision matrix ranking resulted in a list of 20 commodities. The Project Team reviewed these 20 commodities and pared the final list down to 15 top export commodities to be considered in the Maritime Study. The top 15 commodities selected by the Project Team are listed in Table 4.1.

Figure 4.1

Export Category - Products of Firms Currently Exporting
and Have a Potential to Export

DECISION MATRIX

(Rate each commodity on a scale of 1 to 5 with lowest being 1 and 5 the highest.)

COMMODITY	Currently Being Exported	Transport Price Sensitive	Potential for New Jobs	Potential for In-state Revenue	Emerging New High Potential Industry	Compatibility With State	TOTAL
Agriculture							
Livestock	14	20	16	17	20	19	106
Meat & Meat Products	13	22	19	19	17	21	111
Dairy Products	12	16	14	14	13	17	86
Fish							
Grain	21	22	18	18	18	21	118
Fruits & Vegetables	17	21	15	15	17	19	104
Animal Feed	19	21	16	15	18	18	107
Hides & Furs	16	22	14	15	14	18	99
Wool	12	22	14	14	13	18	93
Logs & Lumber	17	23	19	20	16	21	116
Nursery Stock & Seeds	16	18	13	12	16	17	92
Apiare Products	15	19	13	12	13	16	88
Christmas Trees & Decorations							
Non-Agriculture							
Beverages	15	20	14	11	13	17	90
Processed Foods	14	19	14	14	15	20	96
Wood Products	18	19	17	17	17	21	109
Clothing	11	17	12	11	14	15	80
Veterinary & Medicine Products	13	15	11	13	16	16	84
Scientific Instruments	15	17	16	14	19	19	100
Printing & Publishing	10	16	12	11	14	17	80
Ores	14	21	18	18	16	19	106
Coal							
Petroleum	11	15	15	15	17	17	90
Copper & Aluminum	14	20	18	18	17	19	106
Concrete & Clay Products	15	21	15	14	15	18	98
Chemicals & Fertilizer	15	20	17	15	18	16	101
Engine Machinery	12	15	13	11	14	16	81
Industrial Machinery	14	17	16	15	17	19	98
Electrical Machinery							
Agricultural Machinery	13	15	16	15	18	17	94
Fabricated Metal Products	15	19	15	15	16	18	98
Transportation Equipment	12	21	12	13	14	17	89
Computers	14	16	15	16	18	19	98
Telecommunications	14	16	17	16	18	18	99
Recreational Equipment	14	17	15	15	15	21	97

Table 4.1
Montana's Top Export Products and Commodities

1. Logs and lumber
2. Animal feed
3. Wood products
4. Meat and meat products
5. Chemicals and fertilizers
6. Fabricated metal products
7. Grain
8. Livestock
9. Fruits and vegetables
10. Ores
11. Copper
12. Hides and furs
13. Agricultural machinery
14. Wool
15. Coal

A generic classification list was developed by the Project Team to account for minor revisions to the product/commodity rankings made by the team. The final list of generic classifications for the Maritime Study was as follows:

1. Logs, lumber, forest, and wood products
2. Grain, animal feed
3. Meat products, fruits, and vegetables
4. Livestock, hides, furs, and wool
5. Ores (including copper and aluminum)
6. Chemicals and fertilizers
7. Agricultural machinery
8. Fabricated metal products
9. Coal

It should be noted that these rankings compared favorably with Montana Possible Growth Categories ranking conducted by Grimes & Associates in cooperation with the Ports of Portland, Seattle and U.S. Customs in September, 1985 almost a year later (refer to Appendix D).

PART 5. TARGET MARKETS FOR MONTANA COMMODITIES

5.1 Purpose and Procedures

The intent of Task No. 3 was to match the priority export commodities and products in Task No. 2 with potential overseas markets. The first step in Task No. 3 was to identify countries importing large quantities of Montana's priority export commodities and products. An inventory of key countries importing commodities produced in Montana was developed using the 1981 Yearbook of International Trade and Task No. 1 interview-questionnaire data (refer to Figure 5.1). A list was also prepared for each of the priority commodities of the World's top 20 country consumers (refer to Appendix E). From this inventory the Project Team with the assistance of a decision matrix developed a prioritized list of target markets.

5.2 Parameters and Decision Matrix

A decision matrix was constructed for prioritizing target markets (refer to Figure 5.2). Five selection criteria or parameters were used to prioritize each of the countries importing Montana type products. These five criteria consisted of:

1. Previous imports from Montana;
2. One of the world's top five consumers of commodities or products produced in Montana;
3. Close geographic proximity to Montana;
4. Water transport is involved and accounts for a significant portion of the landed cost; and
5. Affinity with the State and recent exchanges or indications of interest.

Figure 5.1

Countries Importing Montana Commodities

<u>Europe</u>	<u>Asia</u>	<u>South America</u>
* United Kingdom	* Japan	Brazil
* Italy	* Korea	* Argentina
* Germany	* Singapore	Chile
France	* Phillipines	Venezuala
* Soviet Union	Israil	* Peru
* Spain	* Hong Kong	
* Netherlands	* Malaysia	<u>Africa</u>
Ireland	* Saudia Arabia	* South Africa
* Belgium	United Arab Emirates	* Egypt
Luxembourg	Iran	* Nigeria
* Denmark	* Iraq	Algeria
* Sweden	India	* Kenya
Switzerland	* Thailand	
Austria	* Bangladesh	<u>North America</u>
* Yugoslavia	Pakistan	* Canada
Portugal	Kuwait	* Mexico
Norway	Lebanon	Cuba
Greece	Turkey	* Puerto Rico
Finland	* China	
	* Taiwan	
	* New Zealand	
	* Australia	
	Papua New Guinea	

* Countries currently importing from Montana

Source: 1981 Yearbook of International Trade; "Current Export Acitivity" Analysis Worksheet

Figure 5.2
Decision Matrix
State of Montana Exports

Country	Previous Imports from Montana 0 = 0 Commodities to 5 = 5 or more commodities	(Use factor of 0.50) One of the Worlds top 5 consumers of commodities or products produced in Montana 0 = 0 top 5 in no commodities to 5 = top 5 in 5 or more commodities	Close Geographic proximity to Montana 0 = distant to 5 = close	Water transport is involved and accounts for a significant portion of the landed cost. 0 = No water to 5 = long water transit and high percentage of cost.	Affity with the state and recent exchanges or indications of interest 0 = none to 5 = significant	Total
United Kingdom	4	2.5	4	2	3	15.5
Italy	0	2.5	3	3	1	9.5
Germany	2	2.5	3	2	3	12.5
Netherlands	1	2.5	3	2	2	10.5
France	0	2.5	3	2	2	9.5
Belgium	0	2.5	3	2	1	8.5
Denmark	1	0.0	3	3	2	9.0
Sweden	3	0.5	3	3	2	11.5
Spain	1	1.0	4	2	1	9.0
Norway	2	0.5	3	3	2	10.5
Soviet Union	1	0.0	2	3	2	8.0
Greece	1	0.0	2	3	1	7.0
Yugoslavia	1	0.0	2	3	1	7.0
Korea	5	2.5	3	4	4	18.5
Japan	5	2.5	4	3	5	19.5
Taiwan	5	0.0	2	4	5	16.0
China	2	0.0	2	4	4	12.0
Indonesia	2	0.0	1	5	3	11.0
Phillipines	4	0.0	2	4	3	13.0
Burma	1	0.0	1	5	1	8.0
Singapore	4	0.0	1	4	3	12.0
Bangladesh	1	0.0	0	5	0	6.0

Figure 5.2 (Continued)

Decision Matrix
State of Montana Exports

Country	Previous Imports from Montana 0 = 0 Commodities to 5 = 5 or more commodities	One of the Worlds top 5 consumers of commodities or products produced in Montana 0 = 0 top 5 in no commodities to 5 = top 5 in 5 or more commodities	Close Geographic proximity to Montana 0 = distant to 5 = close	Water transport is involved and accounts for a significant portion of the landed cost. 0 = No water to 5 = long water transit and high percentage of cost.	Affinity with the state and recent exchanges or indications of interest 0 = none to 5 = significant	Total
India	1	0.5	0	5	2	8.5
Thailand	1	0.0	1	5	2	9.0
Australia	5	0.0	2	4	2	13.0
New Zealand	3	0.0	2	4	2	11.0
Hong Kong	5	0.5	2	4	3	14.5
Malaysia	2	0.0	1	5	2	10.0
Canada	5	2.0	5	0	5	17.0
Mexico	5	0.5	5	1	4	15.5
Puerto Rico	1	0.0	5	0	2	8.0
Brazil	0	0.5	3	2	1	6.5
Venezuela	0	0.0	5	1	1	7.0
Argentina	1	0.0	3	3	1	8.0
Peru	1	0.0	5	3	1	10.0
Turkey	1	0.5	2	3	1	7.5
Saudi Arabia	5	0.0	0	5	3	13.0
Iran	1	0.0	0	5	0	6.0
Iraq	1	0.0	0	5	0	6.0
Egypt	2	0.5	1	4	2	9.5
Nigeria	2	0.0	2	3	1	8.0
South Africa	2	0.0	0	4	2	8.0
Kenya	1	0.0	0	5	0	6.0

Each criteria was to be ranked on a scale of 0 to 5. The exception was criteria (b) which was found to give a substantial bias to the top five consumers of Montana type products. To counteract this bias, a factor of .5 was applied to the 0 to 5 ranking for criteria (b). Each individual team member through use of the decision matrix ranked the potential target markets. The results of the team members ranking sheets were aggregated, averaged, and are presented in Figure 5.2.

5.3 Conclusions

Two lists of Export Potential Countries were prepared to determine the effect of the bias factor. An original export potential country list was prepared without the bias factor, and a revised list was developed using the .5 factor. Based upon the rankings of the top 20 export potential countries appearing in Appendix F and Task No. 1 questionnaire/interviews, the countries appearing in Table 5.1 were selected as the top export potential countries.

Table 5.1
Top Export Potential Countries

<u>Pacific Rim</u>	<u>Europe</u>
Japan	United Kingdom
Korea	Germany
China	Netherlands
Australia	
Taiwan	<u>Optional</u>
Singapore	Canada
Hong Kong	Mexico

PART 6. TARGET MARKET CHARACTERISTICS

6.1 Purpose and Procedure

The purpose of Task No. 4 was to gain indepth information on selected target markets in order to develop strategies for transportation and marketing. In this task, the Team with the assistance of the Consultant conducted interviews overseas to gain detailed market information on the top export potential markets identified in Task No. 3. Considerable effort was expended in this task preparing the export market survey, refining products by country, determining and making contacts with firms to be interviewed, establishing travel teams, and developing travel plans before the overseas interviews took place.

6.11 Preparing Export Market Survey

The Project Consultant was contracted to prepare a draft export interview survey which would provide specific export data responses. Examples of data required in the export market survey included: normal terms of product purchase; trading customs; quality standards; shipment size; customs duties and quotas; nontariff barriers; current supplies; acceptable price ranges, etc. After review by the Project Team and approval by the Maritime Administration, a final draft of the survey was completed (refer to Appendix G).

The Project Team considered the need to have the Export Market Survey translated possibly by the U.S. Embassy in each country or foreign embassy's of each country in the U.S. It was found for the most part that translations were not necessary since most firms doing business with the U.S. could speak

and read English. Another concern of the Project Team was who should be interviewed in the foreign countries, the embassies, government officials, private firms or trading companies. It was found for the most part the selection of interviewees had to be done on a country by country and product by product basis.

6.12 Refining Products by Country to be Interviewed

The Project Team needed to make a determination of the commodities to be surveyed for each country to be interviewed. The best product export information was obtained from country specialists in the U.S. Department of Commerce. Foreign embassies in Washington, D.C. were not able to provide assistance since they were more oriented toward helping their countrymen with respect to U.S. imports. Team members from the Business Assistance Division of the Montana Department of Commerce and Montana Department of Agriculture determined the following list of products by country:

Japan

1. Logs, lumber and wood products
2. Meat and meat products
3. Grain
4. Wood
5. Talc and bentonite
6. Animal feed
7. Hides and furs

Korea

1. Logs, lumber and wood products
2. Grain, including malting barley
3. Wool
4. Hides and furs
5. Meat and meat products
6. Animal feed
7. Livestock
8. Ores (copper, iron)
9. Animal feed
10. Animal horns and antlers

Taiwan

1. Grain
2. Hides and furs
3. Wool
4. Meat and meat products
5. Logs, lumber and wood products
6. Ores, including bentonite

China

1. Grain
2. Logs and lumber
3. Meat and meat products
4. Livestock
5. Wool
6. Hides and furs
7. Seeds

Singapore

1. Wood products
2. Meat and meat products
3. Animal feed
4. Grain
5. Coal

Hong Kong

1. Livestock
2. Meat and meat products
3. Animal feed
4. Wool
5. Lumber and wood products
6. Grains
7. Hides and furs

United Kingdom

1. Wood products
2. Meat and meat products
3. Ores (copper, molybdenum concentrates)
4. Grain
5. Animal feed

Germany

1. Meat and meat products
2. Animal feed
3. Coal (possible)
4. Ores
5. Grain
6. Seeds

Netherlands

1. Animal feed
2. Coal
3. Wood products
4. Meat and meat products
5. Grain
6. Hides and furs
7. Seeds

A decision was made if time and funds permitted, two persons would make a trip to eastern Canada and the Great Lakes area to look for more export opportunities since Canada is still one of the largest importers of Montana products.

6.13 Establish Travel Teams

The Project Team resolved basically three areas would be interviewed. The three areas consisted of:

North Pacific - Japan, Korea, Taiwan

South Pacific - China, Hong Kong, Singapore

Europe - United Kingdom, Netherlands, West Germany

A decision was also made that team members should travel in pairs for interviewing in order to improve interview retention and documentation, translation, geographic orientation, aiding in adjusting to required change, etc. The travel team members consisted of:

- (1) One representative from the Montana Department of Agriculture;
- (2) Two representatives from the Business Assistance Division of the Montana Department of Commerce;
- (3) One representative from the Transportation Division of the Montana Department of Commerce;
- (4) One representative from the Port of Montana; and
- (5) One representative from the Project Consultant's firm.

Each team was responsible for making travel arrangements, embassy contacts, obtain appointments with the firms and embassy officials to be interviewed, and mailing of the Export Market Survey to perspective interviewers.

6.14 Develop Travel Plans

Perhaps the most difficult portion of the task because of inexperience was to determine how to go about locating and contacting import firms to be interviewed.

Initially, an attempt was made to contact the U.S. Department of Commerce Commercial Officer in charge of the respective country in Washington, D.C. The U.S. Department of Commerce informed the Team that contact should be made with the Commercial Officer at each of the U.S. Embassies in the countries where the interviews were to be conducted.

The Project Team sent correspondence from the Montana Governor to the U.S. Embassy in each country to be interviewed requesting the embassy to assist by providing the names, addresses, contact person, telex number, and telephone number of firms importing Montana type commodities. For the most part, each U.S. Embassy Commercial Officer and Agricultural Trade Officer responded with a list of firms to contact. Prior to each travel team commencing on their trip, a copy of the Montana Export Market Survey was mailed to each firm and embassy official to be interviewed. Each team was to interview U.S. Embassy Officials and one firm associated with each commodity group in their respective countries due to time constraints.

6.2 The Export Market Survey

6.21 Interviews

Team No. 1 traveled to Japan, Korea and Taiwan from March 11-21, 1985. Seven (7) interviews covering grain, hides and furs, feedstuffs, and talc took place in Japan. Four (4) interviews covering log and lumber products, wheat, meat, and grain took place in Seoul, Korea; and seven (7) interviews involving wheat, barley, meat, hides and furs, and wool were conducted in Taiwan.

Team No. 2 departed on April 28, 1985 and conducted interviews through May 12, 1985. They interviewed eight (8) government purchasing agencies in China, eight (8) importing firms in Hong Kong and four (4) firms in Singapore as well as appropriate U.S. Embassy personnel. Interviews covered logs, lumber, hides and grain products.

Team No. 3 traveled to the United Kingdom, Netherlands and West Germany from April 12-29, 1985. Five (5) interviews were conducted in London relative to wood products, grain, animal feed and ores. Eight (8) interviews were conducted in the Netherlands which involved grain, coal, meat and meat products,

hides and furs, wood products, and animal feed. Seven (7) interviews were conducted in Hamburg, West Germany concerning meat, seeds, coal, grain, and animal feed.

6.22 Market Characteristics and Prospects by Country

The following nine (9) tables provide market characteristics and prospect estimates from information obtained in the overseas Montana Export Survey. The Montana Prospect which ranked from low to high was established by a consensus of the team visiting the respective country.

Table 6.1
MONTANA FOREIGN TRADE OPPORTUNITIES

JAPAN

Commodity	Prospect	Montana Annual Report Quantity (est. tons.)	Delivered Price (US \$/M. T.)	Transport Cost as a Percent of Delivered Price (US %)	Typical Shipament Size (M.T./Vessel)	Frequency of Shipament	Typical Configuration	Estimate of Beet			Value of Montana Share of Imports	Value of Montana Share	Existing Trans. Cost Per Ton
								Beet Percent- age of Market US can Expect	Percent- age of Market Montana can Expect	Mont Importation Factor			
Melt	Low	2,000	\$250.00	30.01	Japan	1,000	10 Container	75.01	30.01	Quantity/Cost	\$500,000	\$112,300	430 \$75.00
Hops	Low	100	\$2,000.00	5.01	Japan	100	Container	0.01	0.01	Delivered Cost	\$200,000	\$0	0 \$100.00
Wheat	Mod./High	1,200,000	\$170.00	10.01	Japan	20,000	5 Bulk	80.01	70.01	Quantity/Cost	\$228,000,000	\$127,480,000	672,000 \$19.00
Talc	Moderate	20,000	\$70.00	45.01	Japan	N/A	Container	80.01	80.01	Delivered Cost	\$1,400,000	\$896,000	12,800 \$31.50
Hides & Furs													
-Cow Hide	Moderate	1.4 Mil Hides	\$44.00/Hide	9.01	Japan	N/A	Container	80.01	0.01	Delivered Cost	\$61,400,000	\$0	0 \$203.07
-Fox/Mink	Moderate	100,000 Hides	\$54-\$1/Pelt	2.01	Japan	N/A	Air	10.01	1.01	Delivered Cost	\$5,350,000	\$5,350	0 \$1,070.0
-Tanned Deerhide	Moderate	10,000 sq ft	\$3.15 sq ft	5.01	Japan	N/A	Air	20.01	1.01	Delivered Cost	\$31,300	\$63	0 \$315.00
Animal Feeds													
-Beet Pulp	High	135,000	\$145.00	12.41	Japan	11,000	1 Bulk	75.01	15.01	Delivered Cost	\$19,575,000	\$2,702,188	15,188 \$17.98
-Alfalfa Pellets	High	55,000	\$110.00	16.41	Japan	4,300	1 Bulk	75.01	15.01	Delivered Cost	\$6,050,000	\$680,675	6,188 \$18.04
-Hay Cubes	High	30,000	\$170.00	11.31	Japan	23	100 Container	75.01	15.01	Delivered Cost	\$5,100,000	\$573,750	3,375 \$19.55
Subtotal		1,442,100								\$327,806,500	\$132,150,476		710,000

Table 6.2

MONTANA FOREIGN TRADE OPPORTUNITIES

KOREA

Commodity	Montana Prospect	Annual Import Quantity (est. tna.)	Delivered Price (US \$/M. T.)	Transport Cost as a Percent of Delivered Price (US %)	Typical Destination	Typical Shipmt Size (M.T./Vessel/No.)	Frequency of Shipment	Typical Configuration	Estimate of Boat			Value of Imports	Value of Montana Share	Montana Share in Metric Tons	Existing Iranian Cost Per Ton
									Boat Percent- age of Market US can Expect	Percentage of US Market Montana can Expect	Moat Important Transportation Factor				
Wheat -Soft White -Hard Red Winter -Hard Red Spring	High	2,000,000	\$138.00	12.2%	Korea	20-30,000	5-7	Bulk	100.0%	15.0%	Delivered Cost	\$312,000,000	N/A	N/A	\$18.84
			\$136.00	12.2%	Korea	20-30,000	5-7	Bulk	100.0%	70.0%	Delivered Cost		N/A	N/A	\$19.03
			\$174.00	12.2%	Korea	20-30,000	5-7	Bulk	100.0%	70.0%	Delivered Cost		N/A	N/A	\$21.23
Hard Red	High		\$157.00	10.0%	Korea	N/A	N/A	Bulk	100.0%	70.0%	Delivered Cost		N/A	N/A	\$15.70
Animal Feed Grain (Wheat)	High	5,300,000	\$136.60	10.0%	Korea	N/A	N/A	Bulk	65.0%	15.0%	Delivered Cost	\$723,980,000	\$70,588,050	516,750	\$13.66
Coal-Bituminous	Moderate	2,000,000	\$80.90	21.0%	Korea	30,000	1	Bulk	60.0%	5.0%	Delivered Cost	\$161,800,000	\$4,854,000	60,000	\$16.99
Subtotal		9,300,000										\$473,800,000	\$4,854,000	60,000	

Table 6.3

MONTANA FOREIGN TRADE OPPORTUNITIES

TAIWAN-REPUBLIC OF CHINA

Commodity	Prospect	Annual Import Quantity (mil. tons.)	Delivered Price (US \$/M. T.)	Transport Cost as a Percent of Delivered Price (US %)	Typical Destination	Typical Shipper Size (M.T./Vessel)	Frequency of Shipments	Typical Configuration	Estimate of Beef			Most Important Transportation Factor	Value of Imports	Value of Montana Share	Montana Share in Total Imports	Existing Imports
									Beef Percent- age of Market US Can Expect	Percentage of US Market Montana Can Expect	Moist					
Wheat Barley	High High	600,000	\$162.50	13.31	Taiwan	27,000	2.5	Bulk	75.01	75.01	Delivered Cost	\$97,500,000	\$54,843,750	337,500	\$21.94	
		80,000	\$160.00	13.31	Taiwan	27,000	1.5	Bulk	15.01	20.01	Quality/Cost	\$9,600,000	\$288,000	1,800	\$21.60	
Hides & Skins	Moderate	35	\$1,400.00	5.01	Taiwan	2	1	Container	50.01	5.01	Quality/Cost	\$49,000	\$1,225	1	\$70.00	
Meat -Beef Shank -Beef Chuck -Beef Knuckle	Moderate Moderate Moderate	49	\$2,425.00	10.01	Taiwan	4.1	1 Fr. Container	1 Fr. Container	10.01	10.01	Quality/Cost	\$117,919	\$1,179	0.5	\$242.50	
		12	\$2,624.00	10.01	Taiwan	1.0	1 Fr. Container	1 Fr. Container	10.01	10.01	Quality/Cost	\$31,688	\$317	0.1	\$262.40	
		31	\$2,646.00	10.01	Taiwan	2.5	1 Fr. Container	1 Fr. Container	10.01	10.01	Quality/Cost	\$81,706	\$817	0.3	\$264.60	
Wool	Moderate	500	\$4,000.00	4.01	Taiwan	12	3	Container	0.01	0.01	Supplier Reliability	\$2,000,000	\$0	0.0	\$160.00	
Subtotal		660,627										\$109,380,311	\$55,135,288	339,302		

* Fr.—refrigerated container

Table 6.4

MONTANA FOREIGN TRADE OPPORTUNITIES

PEOPLES REPUBLIC OF CHINA

Commodity	Montana Prospect	Annual Import Quantity (act. tons)	Delivered Price (\$/M. T.)	Transport Cost as a Percent of Delivered Price (\$/M. T.)	Typical Destination	Typical Ship Size (M. T./Vessel/No.)	Frequency of Shipments	Typical Configuration	Estimate of Best			Value of Montana Share	Montana Share in Metric Tons	Existing Trans. Cost Per Ton
									Best Percent- age of Market US can Expect	Percentage of US Market Montana can Expect	Most Important Transportation Factor			
Wood Products														
Softwood Lumber & Logs Plywood	Low	6,290,000	\$380/KBF	10.0%	China	12.5 KBF/Cont	N/A	40 ft. Cont.	50.0%	20.0%	Delivered Cost	\$147,953,380	629,000	\$23.52
	Low		\$12/sheet	10.0%	Ports	20 tons/cont.	N/A	40 ft. Cont.	50.0%	20.0%	Delivered Cost			N/A
Hides Cattle	High	N/A	\$40.00/Hide	5.5%	Shanghai	900 Hides/Ct.	All Year	20 ft. Cont.	40.0%	5.0%	Delivered Cost	N/A	N/A	\$112.82
Cattle Breeding Stock	Low	Low	Negotiated	N/A	N/A	Air Freight	As Needed	Air	80.0%	25.0%	Health Req.	N/A	N/A	N/A
Grain Wheat	Low	13,530,000	\$146.00	18.8%	Shanghai	30,000	Irregular	Bulk	75.0%	0.0%	Delivered Cost \$1,975,380,000	\$0	0	\$27.50
Talc	Low													
Coal	Low													
Subtotal		19,820,000										\$3,454,913,800	\$147,953,380	629,000

TABLE 6.5

MONTANA FOREIGN TRADE OPPORTUNITIES

SINGAPORE

Commodity	Montana Prospect	Annual Import Quantity (est. tne.)	Delivered Price (\$/M. T.)	Transport Cost as a Percent of Delivered Price (US \$)	Typical Destination	Typical Shipments Size (M.T./Vessel/No.)	Frequency of Shipments	Typical Configuration	Estimate of Beet			Value of Montana Share of Imports	Value of Montana Share In Metric Tons	Existing Montana Cost Per Ton	
									Best Percentage of Market US can Expect	Best Percentage of US Market Montana can Expect	Moist Import Factor				
Wheat	High	10,000	\$190.00	14.2%	Singapore	1,500	0.4	Bulk	85.0%	75.0%	Quality	\$1,900,000	\$1,211,250	6,375	\$26.98
		8,000	\$170.00	15.8%	Singapore	1,500	0.4	Bulk	85.0%	75.0%	Quality	\$1,360,000	\$867,000	5,100	\$26.86
Feed Grains	Low	200,000	\$135.00	12.5%	Singapore or Malaysia	4,000	3.3	Bagged Bulk	50.0%	0.0%	Delivered Cost	\$27,000,000	\$0	0	\$16.88
		300,000	\$0.44 /liter	N/A	Singapore	14,000 liters per container	1.5	Containers	0.0%	0.0%	Quality	\$132,000	\$0	0	N/A
Wood Products	Low	5,496	\$1,400.00	N/A	Singapore	13,500 Bd.ft. per cont.	N/A	Containers	60.0%	20.0%	Delivered Cost	\$132,000	\$15,840	660	N/A
		720	\$100.00	N/A	Singapore	18 M/T per container	3	Containers	25.0%	100.0%	Delivered Cost	\$72,000	\$18,000	180	N/A
Meat	High	1,182	\$6,615.00	4.0%	Singapore	23 M/T per container	N/A	Containers	50.0%	35.0%	Delivered Cost	\$7,818,930	\$1,368,313	207	\$264.60
														\$38,414,930	\$3,480,403

Table 6.6

MONTANA FOREIGN TRADE OPPORTUNITIES

HONG KONG

Commodity	Montana Prospect	Annual Import Quantity (est. tons.)	Delivered Price (US \$/M. T.)	Transport Cost as a Percent of Delivered Price (US %)	Typical Destination	Typical Shipper Size (M.T./Vessel)	Frequency of Shipment	Typical Configuration	Estimate of Best			Value of Montana Share	Montana Share in Metric Tons	Existing Trans. Cost Per Ton
									Best Percent- age of Market US can Expect	Percentage of US Market Montana can Expect	Most Important Transportation Factor			
Meat Products -Prime/Choice Beef	High	200,000	\$6,615.00	4.01	Hong Kong	50,000 lbs. per cont.	2.5	Containers	70.01	25.01	Delivered Cost	\$1,323,000,000	\$231,525,000	\$264.40
Potato Products -French Frye	Moderate	600,000	\$793.80	N/A	Hong Kong	35,000 lbs. per cont.	1	Containers	100.01	30.01	Delivered Cost	\$476,280,000	\$142,884,000	N/A
Wheat -DMS -HMS -SW	High	123,093	\$189.00 \$204.00 \$174.00	17.51 16.21 19.01	Hong Kong Hong Kong Hong Kong	7,000 7,000 7,000	0.33 0.33 0.33	Bulk Bulk Bulk	90.01 90.01 90.01	80.01 80.01 80.01	Quality/Cost Quality/Cost Quality/Cost	\$23,264,577 \$16,750,495	88,627	\$33.08 \$33.05 \$33.06
Feed Grains -Alfalfa	Moderate	6,000	\$190.00	12.51	Hong Kong	500	1	Containers	75.01	50.01	Delivered Cost	\$1,140,000	\$427,500	\$23.75
Furs -Mink	Low	100,000 skins	\$20-80/Skin	1.51	Hong Kong	-	N/A	Containers	100.01	5.01	Product Quality	\$5,000,000	\$250,000	\$30-1.20 /skin
Subtotal		929,093										\$1,828,684,577	\$391,636,995	305,877

Table 6.7

MONTANA FOREIGN TRADE OPPORTUNITIES

UNITED KINGDOM

Commodity	Montana Prospect	Annual Quantity (est. tons.) (US \$/M. T.)	Dallivered Price (US \$)	Transport Cost as a Percent of Dallivered Price	Typical Shipmant Size (M.T./Vessals)(Vessals/Mo.)	Frequency of Shipment	Typical Configu- ration	Estimate of Best			Value of Imports	Value of Montana Share	Montana Share In Metric Tons	Existing Imports In Metric Tons
								Estimate of Best Percent- age of Market US can Expect	Estimate of Percent- age of Market US can Expect	Most Important Transportation Factor				
Molybdenum -Wrought -Unwrought	Low	3,284	\$7,590.00	M/A	M/A	M/A	Container	25.0%	5.0%	Delivered Cost	\$24,925,560	\$311,570	41	M/A
	Low	1,144	\$2,722.00	M/A	M/A	M/A	Container	10.0%	5.0%	Delivered Cost	\$3,113,968	\$15,570	6	M/A
Wood Products Softwood -Unfinished -Plywood	Mod./High	3,397,569	\$490.00	21.5%	ship	0.16	Bulk (ship.)	30.0%	20.0%	Delivered Cost	\$1,662,358,810	\$99,741,579	203,534	\$105.35
	Mod./High	410,760		15.0%	20 tons/ container	2500	Open Cont.	50.0%	30.0%	Delivered Cost	M/A	M/A	M/A	\$73.50
Meat -Offal -High Qual. Beef Moderate	High	103,000	\$911.00	25.0%	20 tons/container	13 cont./wk	ref. cont.	40.0%	10.0%	Value of U.S. Quota	\$93,833,000	\$3,753,320	4,120	\$227.75
	Mod./High	400	\$5,512.50	5.0%	20 tons/container	1 cont/eth.	ref. cont.	20.0%	20.0%		\$3,307,500	\$132,300	24	\$275.63
Grain -Wheat -Barley	Low	1,072,000	\$135.00	10.0%	40,000 dwt ships	M/A	Bulk	8.0%	10.0%	Value of U.S.	\$166,160,000	\$1,329,280	8,576	\$15.50
	Low													
Animal Feed	Low	Alfalfa cubes not well known in the U.K. They use low cost ingredients in feed mixtures not produced in Montana. U.K. exports barley.												
Subtotal											\$1,933,698,838	\$105,283,568	216,321	

Table 6.8

MONTANA FOREIGN TRADE OPPORTUNITIES

WEST GERMAN

Commodity	Prospect	Quantity (est. tons.)	Annual Import (est. tons.)	Dallivered Price (\$/M. T.)	Dallivered Price (\$/M. T.)	Transport Cost as a Percent of Dallivered Price	Typical Destination	Typical Shipmant Size (M. T./Vessel)	Frequency of Shipmant (Vessels/Mo.)	Typical Configu- ration	Estimate of Best		Most Important Transportation Factor	Value of Imports	Value of Montana Share	Montana Share in Metric Tons	Existing Trans- Cost Per Ton
											Best Percent- age of Market US can Expect	Percentage of US Market Montana can Expect					
Coal	Mod./Low	10,300,000	950,000	301	Chicago West Bere.			150,000 dat ships	5.56	Bulk	25.01	15.01	Quality/Cost	\$515,000,000	\$19,312,500	386,250	\$15.00
ores -Copper Concan- trate	Low	600,000	\$300.00		9.51 West Bere. Japan			35,000 dat ships	0.83	Bulk	10.01	5.01	Quality/Cost	\$180,000,000	\$900,000	3,000	\$28.50
Wheat -Oat -Barley	Moderate Mod./Low	75,000 40,000 4,000	\$1,373.00 \$5,312.50		12.51 Bere., Belg. 5.01 West Bere.			18.1/cont. 18.1/cont.	5 1	Ref. Cont. Ref. Cont.	30.01 50.01	10.01 30.01	Quality Quota	\$32,920,000 \$22,050,000	\$1,587,400 \$3,307,500	1,200 600	\$145.38 \$275.63
Grain -Wheat -Barley	Low None	200,000 125,000	\$140.50 \$112.00		9.31 West Bere. 9.01 West Bere.			25,000 25,000	0.67 0.42	Bulk Bulk	25.01 0.01	20.01 0.01	Quality Quality	\$11,016,000 \$11,016,000	\$550,800 \$0	10,000 0	\$13.00 \$10.08
Animal Feed	Low	West Germany now has a surplus of grain and is not reporting elised feeds. The demand for U.S. alfalfa grass east has declined substantially.															
Seeds -Oilseeds (Sunflower)	Moderate	370,000	\$300.00	CIF	50.01 West Bere.			16/cont.	200 cont. per month	23 Foot cont.	60.01	10.01	Quality	\$111,000,000	\$6,460,000	22,200	\$150.00
-Cropseeds	Low	All crop seeds used in Germany must be of certified varietal which prevent the importation of any seeds from other countries.															
Subtotal		11,714,000												\$903,002,000	\$32,318,400	423,250	

Table 6.9

MONTANA FOREIGN TRADE OPPORTUNITIES

NETHERLANDS

Commodity	Prospect	Montana Annual Import Quantity (last. ton.) (US \$/M. T.)	Delivered Price (US \$)	Transport Cost as a Percent of Delivered Price (US %)	Typical Destination	Typical Shipper's Size (M. T./Vessel) (Vessels/Mo.)	Frequency of Shipment	Typical Configuration	Estimate of Beet			Value of Montana Share	Montana Share In Metric Tons	Existing Trans.
									Best Percentage of US Market	Moist Content	Value of Imports			
Coal	High/Med.	4,500,000	\$50.00	60.0%	Rotterdam EC Countries	150,000	N/A	Bulk	20.0%	10.0%	Delivered Cost	\$4,500,000	90,000	\$30.00
Wood Products (rough softwood lumber)	High/Med.	5,478	\$490.00	20.0%	Netherlands	N/A	N/A	Bulk	20.0%	30.0%	Value of U.S.	\$159,583	376	\$98.00
Barley	Low	3,000,000	\$172.50	15.0%	Rotterdam	43,000 to 250,000 MT/Mo	N/A	Bulk	50.0%	30.0%	Quality/Cost	\$79,875,000	450,000	\$25.88
-Spring	Low		\$182.50	15.0%	France Italy	150,000 det ship	N/A	Bulk	50.0%	30.0%	Quality/Cost	N/A	N/A	\$27.38
Anneal Feed	None													
-Barley	Low	Mainly use soybean meal, corn gluten feed and extruded sorghum which are not Montana products.												
-Alfalfa Cubes	Low													
Meat	High	227,000	\$771.75	37.0%	Rotterdam	18.1 200 cont./eth Ref. Cont.			50.0%	10.0%	Delivered Cost	\$8,759,363	11,350	\$285.35
-Offal	Moderate	430	\$5,512.50	5.0%	France Belgium	18.1 3 cont./eth Ref. Cont.			50.0%	25.0%	Quotas & Tariffs	\$434,109	79	\$275.43
Seeds	Low	Crossbred characteristice differ. Because of small land area, the Dutch use dense high yield crops in cooperation to crops produced in the U.S. and in particular Montana.												
Hides & Furs	Low	Montana market for hides is mainly in the Far East. East of the Rockies goes to Europe. West of the Rockies goes to Far East - Japan, Taiwan, Korea.												
Subtotal												\$938,819,845	\$93,728,055	\$51,754

6.3 Findings and Conclusions

6.31 Montana Export Market Survey Findings

The following presents Montana Export Market Survey interview findings of both a general and country specific nature by product/commodity:

General Findings for Pacific Rim and Europe

- (1) Montana and Montana products do not have a strong identity in overseas markets. Those efforts that have been initiated by the State are often overshadowed by states with greater resources.
- (2) The cost of Montana's products overseas is impacted by the U.S. dollar exchange rate. In the past, the strong dollar has priced U.S. products out of some markets. The predicted decline in the value of the U.S. dollar will improve the market for Montana products. In some cases, a relatively small increase in the value of a foreign currency against the dollar would make Montana products competitive.
- (3) There is a need to have representatives based in Southeast Asia and Europe to represent Montana's producers and products.
- (4) Most of the consulates and embassies overseas maintain libraries for interested parties, including business firms. Many of these libraries do not contain publications on Montana or its products.
- (5) The Montana Departments of Commerce and Agriculture should subscribe to European and Asian trade publications which advertise what export products are in demand and at what price.

Pacific Rim - General

- (1) There has been an interest and movement of U.S. malting barley and/or barley malt into Asia. This may, in the

near future, become an export market for Montana malting barley.

- (2) There is a very high demand for industrial chemicals in Singapore, but Montana does not currently have producers of chemicals such as hydrochloric acid, polypropylene, phosphoric acid, potassium hydroxide, and acetone who are in a position to export these products.

Pacific Rim - Japan

Grain

- (1) The quality of white wheat from the U.S. is not comparable to Canadian or Australian because of high level of dockage content which causes protein shortage and heat damage. Dockage content is the amount of foreign material found in the wheat.
- (2) All Asian countries look to Japan as a leader in wheat purchases.
- (3) The importation of barley, rice, and wheat is controlled by the Japanese Government. These commodities cannot be imported by private Japanese firms.
- (4) Some Montana malt might be being imported into Japan. In beer making, malt is imported, not barley.

Talc

Montana has moderate potential for exporting high grade talc into Japan. It is now more cost efficient for Japanese importers to bring in lower grades of talc from India and Australia for refining.

Hides

- (1) The potential for exporting cowhide and deerskin from Montana is very good if there was a moderate sized beef processing plant in operation somewhere in the State, and a tannery could be established in-state for both cattle and deerskin.
- (2) Tanned deerskin could be an excellent export product given

the fact that a fresh hide is worth \$3.00 while a tanned hide sells for \$3.15/sq. ft. in Japan. Deerskins are now being purchased from New York and air-shipped to Japan. This market deserves additional analysis.

Animal Feed

Animal feed is a good potential market for Montana during years of average rainfall. Beet pulp, sun cured alfalfa pellets, and hay cubes are currently being imported from North Dakota, Oregon, and California.

Pacific Rim - Korea

Grain

Australia, Canada, Argentina have different systems of calculating dockage content than the U.S. has. In addition, these countries clean their wheat prior to shipping. Clean wheat is highly desired. The U.S. is currently studying solutions to this problem.

Wood Products

In Korea, 99 percent of all natural resources are imported. The U.S. is the second leading supplier of wood products behind Malaysia. Pine from the Northwest U.S. could open up in near future. Furniture industry is on the upswing in Korea.

Animal Feed

Imports of livestock and animal feed products are restricted by the Korean government. Feed grains (corn, sorghum, rye, soybeans) are imported from China, Australia, and Poland. The potential for Montana produced animal feed in Korea is limited.

Pacific Rim - Taiwan

Hides

- (1) It is difficult to predict the demand for hides and skins

from year to year as the market depends on fashion and price. There is a five-year cycle in the leather business.

- (2) Lamb, sheep, deer, and elk skins are purchased finished. A quality tannery in Montana for wild game skins would be profitable. Shayne Industries in Taipei is a small company, but it imports two million square feet of skins per year from Korea alone.

Grain

- (1) Taiwan considers Montana wheat as high quality because of climate and soil. Taiwan especially likes 14½ percent spring wheat (DNS) from Montana.
- (2) Dockage content in U.S. wheat is too high. The dockage computation system in the U.S. must be changed.
- (3) U.S. now has a surplus of rice which cannot be exported because of the U.S. Rice Millers Association and Growers lobbying efforts relative to rice import embargoes. This could effect the importation of U.S. wheat into Taiwan. Wheat blended with rice is the coming thing.
- (4) Montana barley is facing stiff competition from Australia and Canada. Barley is imported as animal feed for poultry and hogs. Increased corn importation will adversely effect U.S. barley sales.

Meat Products

- (1) Taiwan is self-sufficient in pork and poultry.
- (2) Because of diet traditions (poultry and hogs) Taiwan does not appear to be a market for high quality Montana beef. Imported beef now tends to be primarily low quality, grass fed from Australia.

Wool

Taiwan imports significant quantities of lambs wool, approximately 60 percent from Australia. Montana would have a moderate chance of exporting wool if two conditions

existed:

- a. Development of an in-state wool collection point and warehouse. Currently Montana wool is being stored in Belle Foursche, SC and Minneapolis, MN.
- b. Liberalization of import quotas for wool garments into U.S.A. would open raw wool exports to Taiwan.

Pacific Rim - China

General

The opening of the four special development zones and fourteen open coastal cities to foreign investment is going to cause China's trade to expand substantially in the next ten years.

Timber and Wood Products

There is a market in China for western style housing for western businessmen and diplomats which appears to have a promising immediate demand.

Hides

There is a considerable demand for hides in China.

Livestock

There appears to be a low demand for cattle breeding stock in China.

Grain

There appears to be a low demand market for wheat in China.

Pacific Rim - Singapore

Wheat

There is a high demand for wheat. The U.S. is the primary source of wheat for flour millers in Singapore. A small

amount of wheat is purchased from Australia due to its proximity, and from Canada, due to its quality. Recently the protein content of the wheat purchased from the U.S. has not met the specifications in the contract and there has been some dissatisfaction with the amount of dockage and foreign material in the wheat that has been delivered.

Talc

Most of the talc processed in Singapore is purchased from the PRC (China Mineral) and South Korea. The U.S. at this time is not price competitive, but the talc buyers in Singapore are aware of the superior quality of the talc that is available in the U.S. All talc that is used in cosmetics must be sterilized which is difficult for the PRC to comply with. Talc is a moderate prospect for Montana. This market is expected to grow at about 2 percent per year.

Wood Products

Softwood appears to be a low prospect in the Singapore market. The U.S. is a primary supplier of hardwood to Singapore mills while Australia and New Zealand are the primary suppliers of softwoods. Australia and New Zealand have a definite advantage in freight cost in supplying softwood, but there is very little difference in quality between U.S. and Australian softwood. Australia softwood is cheaper FOB Australia than U.S. lumber is FOB a U.S. port. Plywood in this region is at a current glut, because Indonesia is flooding the market. China has also started exporting large quantities of wood products to Singapore.

Meat and Meat Products

Singapore appears to be a high prospect for choice beef. Several countries around Singapore depend on beef suppliers in Singapore to supply them with high quality restau-

rant cuts. Singapore imported 2.6 million pounds of U.S. beef in 1984. Demand is expected to raise moderately over the next ten years for beef. Singapore also imported 112,000 pounds of pork, however pork demand is not expected to increase much over the next ten years.

Pacific Rim - Hong Kong

Meat and Meat Products

Choice beef has a good prospect in the Hong Kong market. Imports of U.S. beef are of better quality than meat imported from Brazil, China, Australia, New Zealand, and Argentina. Hotel restaurants are the largest purchasers of U.S. beef in Hong Kong. They are willing to pay the higher price for better quality beef. A large majority of the meat supplied to restaurants in China is handled through suppliers in Hong Kong. The beef market is expected to grow at about three percent per year while the U.S. market share of the Hong Kong pork market will be supplied more and more by the PRC.

Potato Products

Hong Kong in 1984 imported approximately 7.56 million pounds of frozen potato products from the U.S. The processed potato brokers purchase primarily a high quality premium frozen french fry, which is purchased CIF Hong Kong at approximately 36 cents per pounds. The trend for the consumption of potato products by Hong Kong residents is currently level to decreasing and is a moderate prospect.

Wheat

The U.S. has supplied approximately 80 percent of Hong Kong's wheat for the past 12 years (89 percent in 1984) and would be considered a high prospect. Canada is the only major competitor for this market. Wheat sold to the Hong Kong market are of three types: 15 percent protein

Dark Northern Spring Wheat (\$189 MT FOB); 13 percent protein Hard Red Winter Wheat (\$204 MT FOB); and any protein Soft White Wheat (\$174 MT FOB). Hong Kong is currently supplied primarily by grain shipped from the PNW (Pacific North West) in the U.S. of which Montana is the principle supply source.

Animal Feed or Feed Grains

Hong Kong is not considered to be a significant importer of feed grains and is a moderate prospect. Alfalfa is the only product that feed manufacturers in Hong Kong are interested in purchasing. The U.S. and Canada are Hong Kong's two major suppliers of alfalfa. There are cheaper protein supplements to feed animals available from China and Thailand. For the most part, Southeast Asia, except for the Philippines, is not a significant importer of U.S. feed grains.

Europe - General

- (1) In the European Economic Community (EEC) unemployment runs between 10 and 15 percent. For this reason in most EEC countries there is no levy, tax or duty on imports such as raw timber or ores that the EEC can add value to form a product. The exception is beef or wheat which they can produce themselves.
- (2) The EEC countries' farm lobby is more effective for wheat and beef than any other commodity.

Europe - United Kingdom

Meat and Meat Products

There appears to be a moderate prospect for choice beef and a high prospect for offal/variety meats. Currently the U.K. and EEC restricts the import quota of U.S. beef (carcass or chilled beef) to 10,000 metric tons and charges a 20 percent import duty on the C.I.F. price. The U.S. is presently exporting to the U.K. only 600 metric

tons leaving a market of 9,400 metric tons of beef. There is no import quota on offal/variety meats. All packing plants would have to be EEC inspection certified and be able to cut to European meat specifications.

Wood Products - Softwood Plywood

The European Community has a softwood plywood quota of 600,000 cubic meters of which the United Kingdom's share is 238,000 cubic meters. Unfinished softwood lumber exceeding 5 mm in thickness is duty free. The U.S. supplied about 100,000 cubic meters representing about 2 percent of the total market share. It was estimated that the prospect for softwood unfinished and plywood is moderate to high.

Europe - Netherlands

Coal

According to the American Consulate in the Netherlands, steam coal demands in the Netherlands will increase by 100 percent during the next 12 years. Imports of steam coal should go from 4.3 million tons in 1983 to 9 million tons in the year 2000. When the market revives there may be an opportunity to increase sales of U.S. steam coal with a sulphur content not to exceed 1.5 percent. In the next few years it is estimated the coal market in the Netherlands could become a moderate to high prospect.

Wood Products, Lumber

There appears to be a moderate to high prospective market for rough softwood. There are no quota requirements for unfinished softwood. In 1984, 6,000 cubic meters of rough softwood came from Sweden, 750 cubic meters from Canada, and 750 cubic meters from the U.S. Rough lumber is sized and finished either at the plant or at the destination. Due to lower housing demand, there is some decline in the demand for lumber. The supplier normally ships lumber

C.I.F. Most rough lumber (70 percent) is sold as it comes in.

Meat and Meat Products

- (1) Because of the current economic situation in Europe, a large increase in beef imports is not foreseen. Dutch people normally prefer pork than beef. Most beef currently imported by the Netherlands is high quality beef used in hotels and restaurants. The U.S. is subject to a 10,000 metric ton beef quota in the EEC. Because of the high duty and limited restaurant demand, the 10,000 metric ton quota has never been reached. In the current market the U.S. is the largest supplier of offal/variety meats (livers, heart, tongue). The firm interviewed also imports horse meat for human consumption. Most of the horse meat goes to France with some to Holland. Variety meats/offals go to France and Belgium.
- (2) With respect to U.S. beef, the Europeans are not used to large amounts of animal fat. Holland importers are satisfied with U.S. beef quality except for the American practice of shipping 30 percent nonquality beef with quality beef. Because of the EEC requirement to reduce dairy herds, beef slaughter of culled dairy animals is high in the Netherlands; therefore, reducing demand for import beef. It is estimated there is a moderate prospect for choice beef and a high prospect for offal/variety meats.

6.32 Conclusions

The Maritime Project Team concluded that the following Montana products and countries have the most export potential:

Pacific Rim

Japan - wheat, talc, hides
animal feeds

Europe

United Kingdom - lumber,
beef

Korea - wheat, wood products, coal	Netherlands - coal, lumber meat (offal)
China - timber, hides	West Germany - meat
Taiwan - wheat, barley, hides, beef, wool	products, oilseeds
Singapore - beef, wheat, talc	
Hong Kong - beef, potato products, wheat, feed grains	

PART 7. MONTANA EXPORT TRANSPORTATION CORRIDORS
AND MARITIME ASSETS

7.1 Purpose and Procedures

7.11 Purpose

The identification of transportation corridors and the evaluation of transportation costs for moving commodities and products to key markets was completed during Task Nos. 5 and 6.

7.12 Procedures

The task involved developing alternative transportation routes, both land and water, for Montana exports of major commodities using data gathered during the surveys performed in Task No. 4. The Montana Export Market Surveys provided information on the demand for selected Montana products in six Pacific Rim nations and three European nations. The Export Market Survey information was enlarged with commodity price and transportation rate information obtained from the State of Montana, ports, railroads, stevedores, and ocean carriers. Alternative transportation routes for each key commodity to each target market were plotted. Transportation costs were calculated based on rates in existence at the time in which the Export Market Survey was conducted. In addition, routes were selected which were subject to a significant total cost reduction through the substitute use of waterway and maritime assets.

7.13 Assumptions

Several assumptions were employed in conducting this task.

First, because in some cases the survey data was incomplete, the missing data had to be estimated from secondary sources and from similar commodities or markets. Such cases are indicated in the notes to the exhibits.

Second, in order to keep the analysis within the bounds of the study scope, a key commodity was selected to represent each major product area. Wheat was selected to represent grain in all selected market areas, with the exception of Taiwan, where barley was selected. Tenderloin fillets and strip loins were selected to represent prime and choice meat grades which Montana could potentially export. Hides and skins were represented by cow hides and sunflower seeds represented oilseeds.

Third, in the analysis of trade routes for Montana commodities, inland waterway options were analyzed separately.

Fourth, container positioning costs were not included in the transportation cost estimates of containerized commodities unless specifically indicated. Generally, arrangements can be made with other shippers to reduce or eliminate the cost of positioning containers in Montana. If full positioning costs were included, an average of \$600.00 per container or \$30 to \$40 per metric ton would be added to the cost of transportation.

Finally, it should be noted that in some of the market survey results only the ocean carrier portion of the transportation costs were represented and therefore, total transportation costs were underestimated. These are noted in the narrative and estimates of the additional transportation cost component were made where feasible.

7.2 Export Transportation Corridors

This section includes summaries and illustrations of trade

routes along with potential commodities originating in Montana and using land transportation to its respective ocean port. The descriptions are arranged by commodity and by trade area - i.e., Europe or Pacific Rim. Also included are exhibits representing the segmented transportation costs of alternative trade routes in comparison with existing commodity sources at potential markets. Where applicable, two separate exhibits for each commodity were developed to analyze transportation rates on both a metric ton basis and a container basis. Conversion factors between metric tons and containers were obtained from the results of the market surveys.

7.21 Route Analysis

The commodities and markets selected for the analysis are as follows:

Coal: Montana to Netherlands The routes analyzed were from Billings, Montana to Rotterdam, Netherlands. As shown in Figure 7.1, Alternative 1.1 progresses from Billings to New Orleans via rail, and then from New Orleans to Rotterdam via tramp carrier. Under Alternative 1.2 coal progresses from Billings to Norfolk via rail and then on to Rotterdam via tramp carrier. As shown in Table 7.1, Montana coal is expected to have a delivered price of \$56.98 per metric ton under the first alternative and \$62.93 under the second alternative. These are both higher than the existing price of \$50.00 per metric ton. The major component of the delivered price for both alternatives is the inland transportation cost. It should be noted that the normal (and less expensive) route for coal to New Orleans is from Montana to St. Paul via rail and then from St. Paul to New Orleans via barge. This alternative will be analyzed later in Section 7.3 - Maritime Inland Waterway Options and Cost Comparisons.

Note that the comparability of coal also depends on BTU

Figure 7.1

EASTBOUND TRADE ROUTES FOR COAL

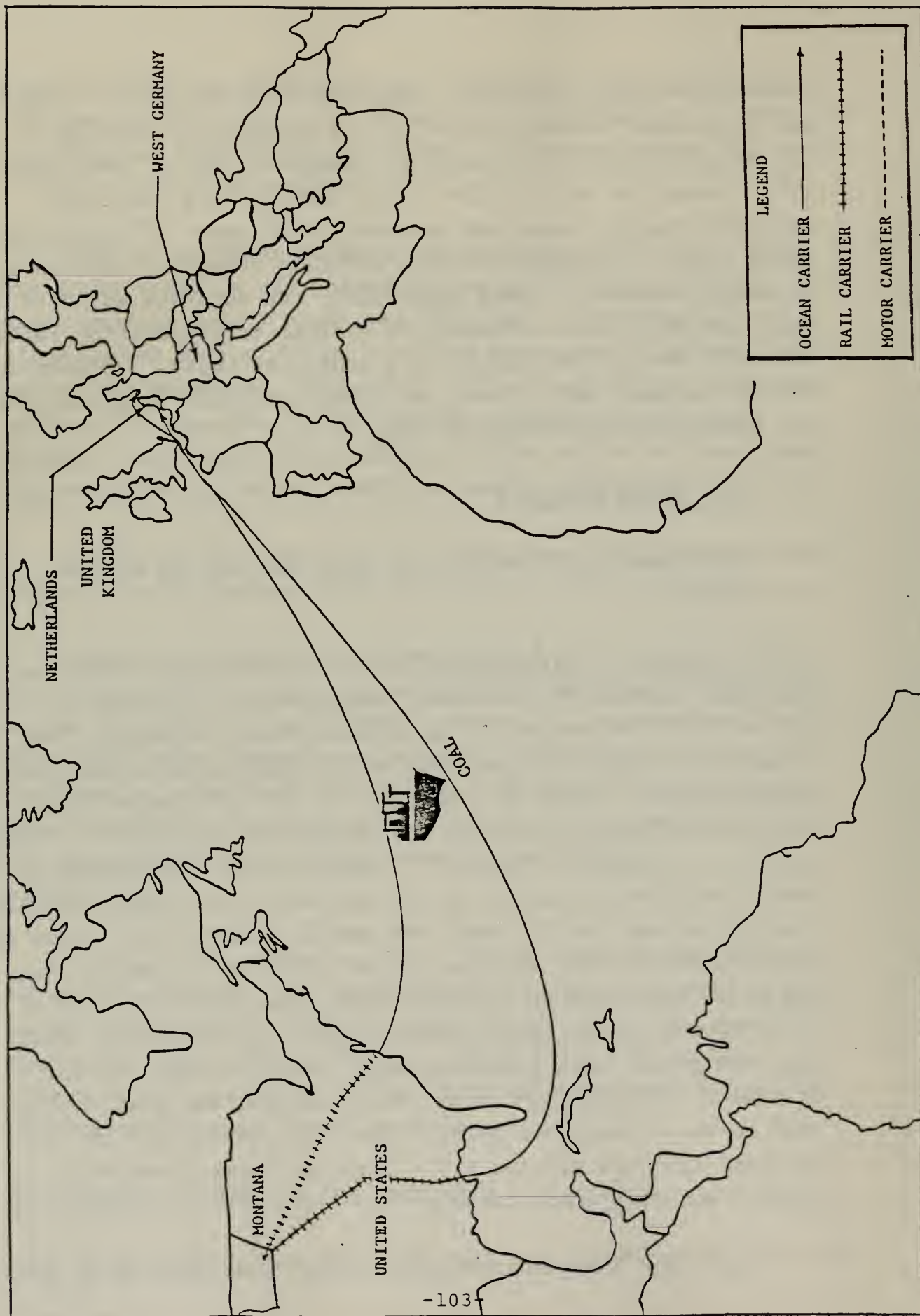


Table 7.1

DELIVERED COSTS AND TRANSPORTATION COSTS

Coal (Bituminous)

Per Metric Ton

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>							
to Netherlands							
Existing Source	\$20.00	-	-	-	-	\$30.00	\$50.00
Alternative 1.1	\$10.00	\$0.00	\$38.48	\$3.00	\$5.50	\$46.98	\$56.98
Alternative 1.2	\$10.00	\$0.00	\$44.68	\$3.00	\$5.25	\$52.93	\$62.93
to West Germany							
Existing Source	\$33.33	-	-	-	-	\$16.67	\$50.00
Alternative 2.1	\$10.00	\$0.00	\$38.48	\$3.00	\$5.50	\$46.98	\$56.98
Alternative 2.2	\$10.00	\$0.00	\$44.68	\$3.00	\$5.25	\$52.93	\$62.93
to Korea							
Existing Source	\$63.91	-	-	-	-	\$16.99	\$80.90
Alternative 3.1	\$10.00	\$0.00	\$18.06	\$3.00	\$10.00	\$31.06	\$41.06
Alternative 3.2	\$10.00	\$0.00	\$29.04	\$3.00	\$10.00	\$42.04	\$52.04

Alternative 1.1: Via rail to New Orleans, then via tramp steamer to Rotterdam.

Alternative 1.2: Via rail to Norfolk, then via tramp steamer to Rotterdam.

Alternative 2.1: Via rail to New Orleans, then via tramp steamer to Hamburg.

Alternative 2.2: Via rail to Norfolk, then via tramp steamer to Hamburg.

Alternative 3.1: Via rail to Seattle, then via tramp steamer to Pusan.

Alternative 3.2: Via rail to Los Angeles, then via tramp steamer to Pusan.

(For Table Explanatory notes refer to Appendix H)

equivalents. Since no BTU information was obtained in the surveys, no BTU evaluation was made. Generally, Montana coal has a low BTU rating meaning that the delivered costs may be underestimated in some cases.

Coal: Montana to West Germany The routes analyzed were from Billings, Montana to Hamburg, West Germany. As shown in Figure 7.1, Alternative 2.1 progresses from Billings to New Orleans via rail carrier, and then from New Orleans to Hamburg via tramp carrier. Under Alternative 2.2, the route progresses from Billings to Norfolk via rail, and then from Norfolk to Hamburg via tramp steamer. As shown in Table 7.1, the delivered costs of Montana coal under both alternatives are slightly higher than coal from current sources. The price of Montana coal would likely be reduced if inland waterways are used rather than rail.

Coal: Montana to South Korea The routes analyzed were from Billings, Montana to Pusan, South Korea, as exhibited in Figure 7.2. Alternative 3.1 progresses from Billings, Montana to Seattle, Washington via rail, and then from Seattle to Pusan via tramp steamer. Under Alternative 3.2, coal progresses from Billings to Los Angeles via rail and then from Los Angeles to Pusan via tramp steamer. As presented in Table 7.1, Montana bituminous coal can be delivered to Pusan at a cost of \$41.06 per metric ton under Alternative 3.1 and \$52.04 per metric ton under Alternative 3.2. Under both alternatives, the delivered cost is far less than the existing delivered price of \$80.90 per metric ton from existing sources. The South Korean market has significant potential for Montana coal exports. However, more research should be performed to compare delivered BTU equivalents.

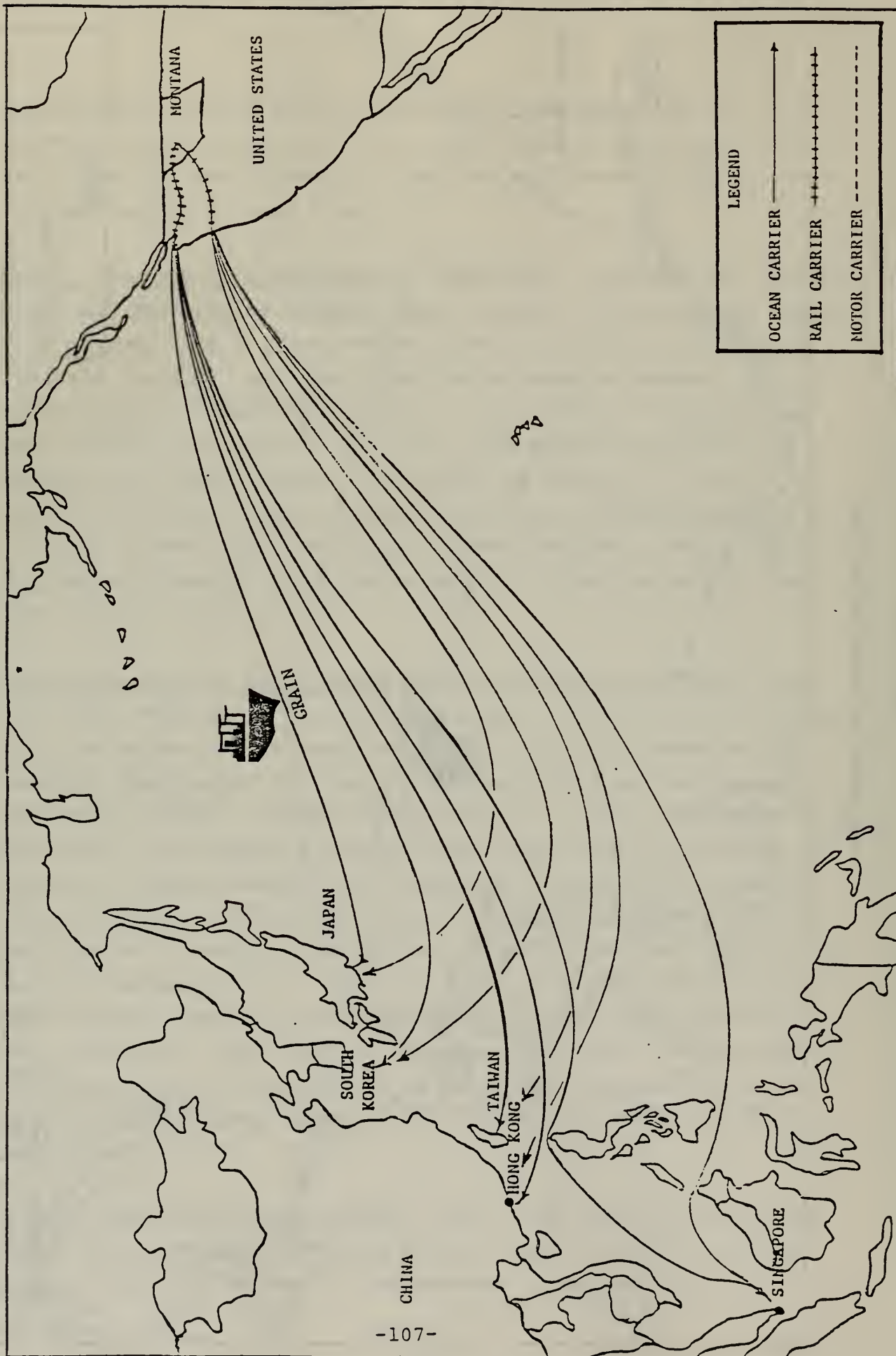
Wheat: Montana to South Korea The routes analyzed were from Great Falls, Montana to Pusan, South Korea. As indicated in Figure 7.3, Alternative 1.1 progresses from Great Falls,

WESTBOUND TRADE ROUTES FOR COAL



Figure 7.3

WESTBOUND TRADE ROUTES FOR GRAIN



Montana to Seattle, Washington via rail, and then from Seattle to Pusan via tramp steamer. Under Alternative 1.2, wheat progresses from Great Falls to Portland, Oregon via rail and then from Portland to Pusan via tramp steamer. As presented in Table 7.2, Montana wheat can be delivered to South Korea at a cost of \$182.91 per metric ton under Alternative 1.1 and for \$185.12 per metric ton under Alternative 1.2. Both delivered costs are significantly higher than the existing delivered price of \$156.00 per metric ton. At this time, wheat does not appear to be a competitive Montana commodity in the South Korean market.

Wheat: Montana to Japan The routes analyzed were from Great Falls, Montana to Yokohama, Japan. As exhibited in Figure 7.3, Alternative 2.1 progresses from Great Falls to Seattle, Washington via rail, and then from Seattle to Yokohama via tramp steamer. Under Alternative 2.2, wheat progresses from Great Falls to Portland, Oregon via rail and then from Portland to Yokohama via tramp steamer. As shown in Table 7.2, Montana wheat can be delivered to Japan at a cost of \$179.66 per metric ton under Alternative 2.1 and for \$181.87 per metric ton under Alternative 2.2. These costs compare favorably with the existing delivered price of \$190.00 per metric ton. Thus, under existing conditions, Montana grain would be competitive in Japan.

Wheat: Montana to Hong Kong The routes analyzed were from Great Falls, Montana to Hong Kong. As shown in Figure 7.3, Alternative 3.1 progresses from Great Falls, Montana to Seattle, Washington via railroad, and then from Seattle to Hong Kong via tramp steamer. Under Alternative 3.2, wheat progresses from Great Falls to Portland, Oregon via rail and from Portland to Hong Kong via tramp steamer. As indicated in Table 7.2, Montana wheat can be delivered to Hong Kong at a cost of \$182.91 per metric ton under Alternative 3.1 and for \$184.87 per metric ton under Alternative 3.2. These costs are

Table 7.2

DELIVERED COSTS AND TRANSPORTATION COSTS

Grain (Wheat)

Per Metric Ton

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>							
to Korea							
Existing Source	\$136.97	-	-	-	-	\$19.03	\$156.00
Alternative 1.1	\$135.18	\$0.00	\$33.73	\$3.00	\$11.00	\$47.73	\$182.91
Alternative 1.2	\$135.18	\$0.00	\$35.94	\$3.00	\$11.00	\$49.94	\$185.12
to Japan							
Existing Source	\$171.00	-	-	-	-	\$19.00	\$190.00
Alternative 2.1	\$135.18	\$0.00	\$33.73	\$3.00	\$7.75	\$44.48	\$179.66
Alternative 2.2	\$135.18	\$0.00	\$35.94	\$3.00	\$7.75	\$46.69	\$181.87
to Hong Kong							
Existing Source	\$155.92	-	-	-	-	\$33.08	\$189.00
Alternative 3.1	\$135.18	\$0.00	\$33.73	\$3.00	\$11.00	\$47.73	\$182.91
Alternative 3.2	\$135.18	\$0.00	\$35.94	\$3.00	\$11.00	\$49.94	\$185.12
to Singapore							
Existing Source	\$163.02	-	-	-	-	\$26.98	\$190.00
Alternative 4.1	\$135.18	\$0.00	\$33.73	\$3.00	\$18.00	\$54.73	\$189.91
Alternative 4.2	\$135.18	\$0.00	\$35.94	\$3.00	\$18.00	\$56.94	\$192.12
to Taiwan (Barley)							
Existing Source	\$138.40	-	-	-	-	\$21.60	\$160.00
Alternative 5.1	\$90.41	\$0.00	\$33.73	\$3.00	\$8.50	\$45.23	\$135.64
Alternative 5.2	\$90.41	\$0.00	\$35.94	\$3.00	\$8.50	\$47.44	\$137.85

Alternative 1.1: Via rail to Seattle, then via tramp steamer to Pusan.

Alternative 1.2: Via rail to Portland, then via tramp steamer to Pusan.

Alternative 2.1: Via rail to Seattle, then via tramp steamer to Yokohama.

Alternative 2.2: Via rail to Portland, then via tramp steamer to Yokohama.

Alternative 3.1: Via rail to Seattle, then via tramp steamer to Hong Kong.

Alternative 3.2: Via rail to Portland, then via tramp steamer to Hong Kong.

Alternative 4.1: Via rail to Seattle, then via tramp steamer to Singapore.

Alternative 4.2: Via rail to Portland, then via tramp steamer to Singapore.

Alternative 5.1: Via rail to Seattle, then via tramp steamer to Keelung.

Alternative 5.2: Via rail to Portland, then via tramp steamer to Keelung.

(For Table Explanatory notes refer to Appendix H)

slightly less than the existing delivered cost of \$189.00 per metric ton. Under existing conditions, Montana wheat would be competitive in Hong Kong.

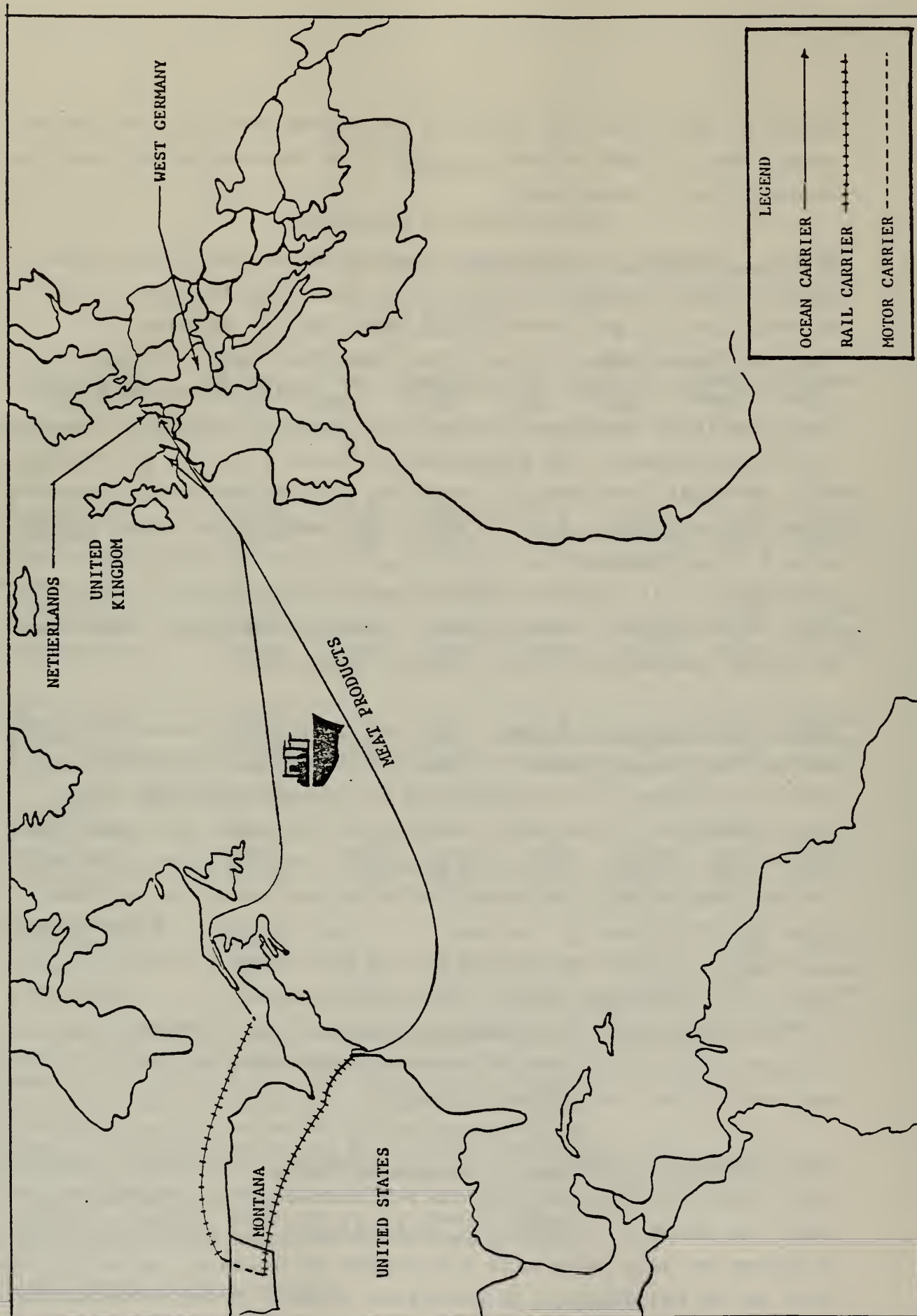
Wheat: Montana to Singapore The routes analyzed were from Great Falls, Montana to Singapore. As shown in Figure 7.3, Alternative 4.1 progresses from Great Falls, Montana to Seattle, Washington via railroad, and then on to Singapore via tramp steamer. Under Alternative 4.2, wheat progresses from Great Falls to Portland via rail and from Portland to Singapore via tramp steamer. As presented in Table 7.2, the delivered cost of wheat from Montana would be \$189.91 per metric ton under Alternative 4.1 and \$192.12 per metric ton under Alternative 4.2 as compared to \$190.00 per metric ton under existing conditions. At present, Montana wheat has neither a significant advantage nor a significant disadvantage over wheat from existing sources but could become competitive.

Barley: Montana to Taiwan The routes analyzed were from Great Falls, Montana to Keelung, Republic of China in Taiwan. As shown in Figure 7.3, Alternative 5.1 progresses from Great Falls, Montana to Seattle, Washington via rail, and then from Seattle to Keelung via tramp steamer. Under Alternative 5.2, barley progresses from Great Falls to Portland via rail and then from Portland to Keelung via tramp steamer. As presented in Table 7.2, Montana barley can be delivered to Taiwan at a cost of \$135.64 per metric ton under Alternative 5.1 and for \$137.85 per metric ton under Alternative 5.2. These costs compare favorably with the existing delivered price of \$160.00 per metric ton for barley at Taiwan.

Meat Products: Montana to United Kingdom The routes analyzed were from Billings, Montana to Felixstowe in the United Kingdom. As shown in Figure 7.4, Alternative 1.1 progresses from Billings to Baltimore with a transfer in Chicago via rail, and then on to Felixstowe via container liner. Under Alternative

Figure 7.4

EASTBOUND TRADE ROUTES FOR MEAT PRODUCTS



1.2, meat products move via motor carrier and rail from Billings to Montreal and then from Montreal to Felixstowe via container liner. As indicated in Tables 7.3 and 7.4, meat products can be delivered to the United Kingdom from Montana at \$6,504.35 per metric ton under Alternative 3.1 and for \$6,399.77 per metric ton under Alternative 1.2. Neither alternative provides a delivered cost which is competitive with the existing delivered price of \$5,512.50 per metric ton. The principal obstacle to the export of Montana meat products to European markets is the high Montana FOB price which results from the lack of a meat processing facility within the State of Montana.

Meat Products: Montana to Netherlands The routes analyzed were from Billings, Montana to Rotterdam in the Netherlands. As exhibited in Figure 7.4, under Alternative 2.1 the route progresses via rail from Billings to Baltimore and then from Baltimore to Rotterdam via container carrier. Under Alternative 2.2 the route progresses via truck and rail from Billings to Montreal and then from Montreal to Rotterdam via container liner. Containerized transportation costs from Billings are higher than they would be otherwise because containers on chassis are required. As presented in Tables 7.3 and 7.4, meat products can be delivered to the Netherlands from Montana for a total cost of \$6,478.35 per metric ton under Alternative 2.1 and for \$6,390.64 per metric ton under Alternative 2.2. Under existing conditions, neither alternative is competitive with the current delivered price of \$5,512.50.

Meat Products: Montana to Hong Kong The routes analyzed were from Billings, Montana to Hong Kong. As indicated in Figure 7.5, Alternative 3.1 progresses from Billings to Seattle via motor carrier, and then from Seattle to Hong Kong via container liner. Under Alternative 3.2, the route progresses from Billings to Portland, Oregon via motor carrier. Meat products are then shipped from Portland to Hong Kong via container

Table 7.3

DELIVERED COSTS AND TRANSPORTATION COSTS

Beef (Prime and Choice)

Per Metric Ton

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>							
to United Kingdom							
Existing Source	\$5,236.87	-	-	-	-	\$275.63	\$5,512.50
Alternative 1.1	\$6,063.75	\$0.00	\$184.60	\$12.00	\$244.00	\$440.60	\$6,504.35
Alternative 1.2	\$6,063.75	\$0.00	\$130.92	\$13.10	\$192.00	\$336.02	\$6,399.77
to Netherlands							
Existing Source	\$5,236.87	-	-	-	-	\$275.63	\$5,512.50
Alternative 2.1	\$6,063.75	\$0.00	\$184.60	\$12.00	\$218.00	\$414.60	\$6,478.35
Alternative 2.2	\$6,073.75	\$0.00	\$130.92	\$13.10	\$182.87	\$326.89	\$6,400.64
to Hong Kong							
Existing Source	\$6,019.65	-	-	-	-	\$595.35	\$6,615.00
Alternative 3.1	\$6,073.75	\$66.15	\$0.00	\$19.00	\$198.00	\$283.15	\$6,356.90
Alternative 3.2	\$6,073.75	\$66.15	\$0.00	\$19.00	\$198.00	\$283.15	\$6,356.90
to Singapore							
Existing Source†	\$6,100.40	\$250.00	-	-	\$264.60	\$514.60	\$6,615.00
Alternative 4.1	\$6,073.75	\$66.15	\$0.00	\$19.00	\$260.00	\$345.15	\$6,418.90
Alternative 4.2	\$6,073.75	\$66.15	\$0.00	\$19.00	\$260.00	\$345.15	\$6,418.90

Alternative 1.1: Via rail to Baltimore, then via container liner to Felixstowe.

Alternative 1.2: Via rail to Montreal, then via container liner to Felixstowe.

Alternative 2.1: Via rail to Baltimore, then via container liner to Rotterdam.

Alternative 2.2: Via rail to Montreal, then via container liner to Rotterdam.

Alternative 3.1: Via truck to Seattle, then via container liner to Hong Kong.

Alternative 3.2: Via truck to Portland, then via container liner to Hong Kong.

Alternative 4.1: Via truck to Seattle, then via container liner to Singapore.

Alternative 4.2: Via truck to Portland, then via container liner to Singapore.

Note: Drayage to Canada included in rail transport costs.

† \$250.00 per metric ton inland transportation cost estimated.

(For Table Explanatory notes refer to Appendix H)

Table 7.4

DELIVERED COSTS AND TRANSPORTATION COSTS

Beef (Prime and Choice)

Per Twenty Foot Container

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>							
to United Kingdom							
Existing Source	\$53,416.07	-	-	-	-	\$2,811.43	\$56,227.50
Alternative 1.1	\$61,850.25	\$0.00	\$1,882.92	\$122.40	\$2,488.80	\$4,494.12	\$66,344.37
Alternative 1.2	\$61,850.25	\$0.00	\$1,335.38	\$133.62	\$1,958.40	\$3,427.40	\$65,277.65
to Netherlands							
Existing Source	\$53,416.07	-	-	-	-	\$2,811.43	\$56,227.50
Alternative 2.1	\$61,850.25	\$0.00	\$1,882.92	\$122.40	\$2,223.60	\$4,228.92	\$66,079.17
Alternative 2.2	\$61,850.25	\$0.00	\$1,335.38	\$133.62	\$1,865.27	\$3,334.28	\$65,184.53
to Hong Kong							
Existing Source	\$61,400.43	-	-	-	-	\$6,072.57	\$67,473.00
Alternative 3.1	\$61,850.25	\$674.73	\$0.00	\$193.80	\$2,019.60	\$2,888.13	\$64,738.38
Alternative 3.2	\$61,850.25	\$674.73	\$0.00	\$193.80	\$2,019.60	\$2,888.13	\$64,738.38
to Singapore							
Existing Source	\$62,224.08	\$2,550.00	-	-	\$2,698.92	\$5,248.92	\$67,473.00
Alternative 4.1	\$61,850.25	\$674.73	\$0.00	\$193.80	\$2,652.00	\$3,520.53	\$65,370.78
Alternative 4.2	\$61,850.25	\$674.73	\$0.00	\$193.80	\$2,652.00	\$3,520.53	\$65,370.78

Alternative 1.1: Via rail to Baltimore, then via container liner to Felixstowe.

Alternative 1.2: Via rail to Montreal, then via container liner to Felixstowe.

Alternative 2.1: Via rail to Baltimore, then via container liner to Rotterdam.

Alternative 2.2: Via rail to Montreal, then via container liner to Rotterdam.

Alternative 3.1: Via truck to Seattle, then via container liner to Hong Kong.

Alternative 3.2: Via truck to Portland, then via container liner to Hong Kong.

Alternative 4.1: Via truck to Seattle, then via container liner to Singapore.

Alternative 4.2: Via truck to Portland, then via container liner to Singapore.

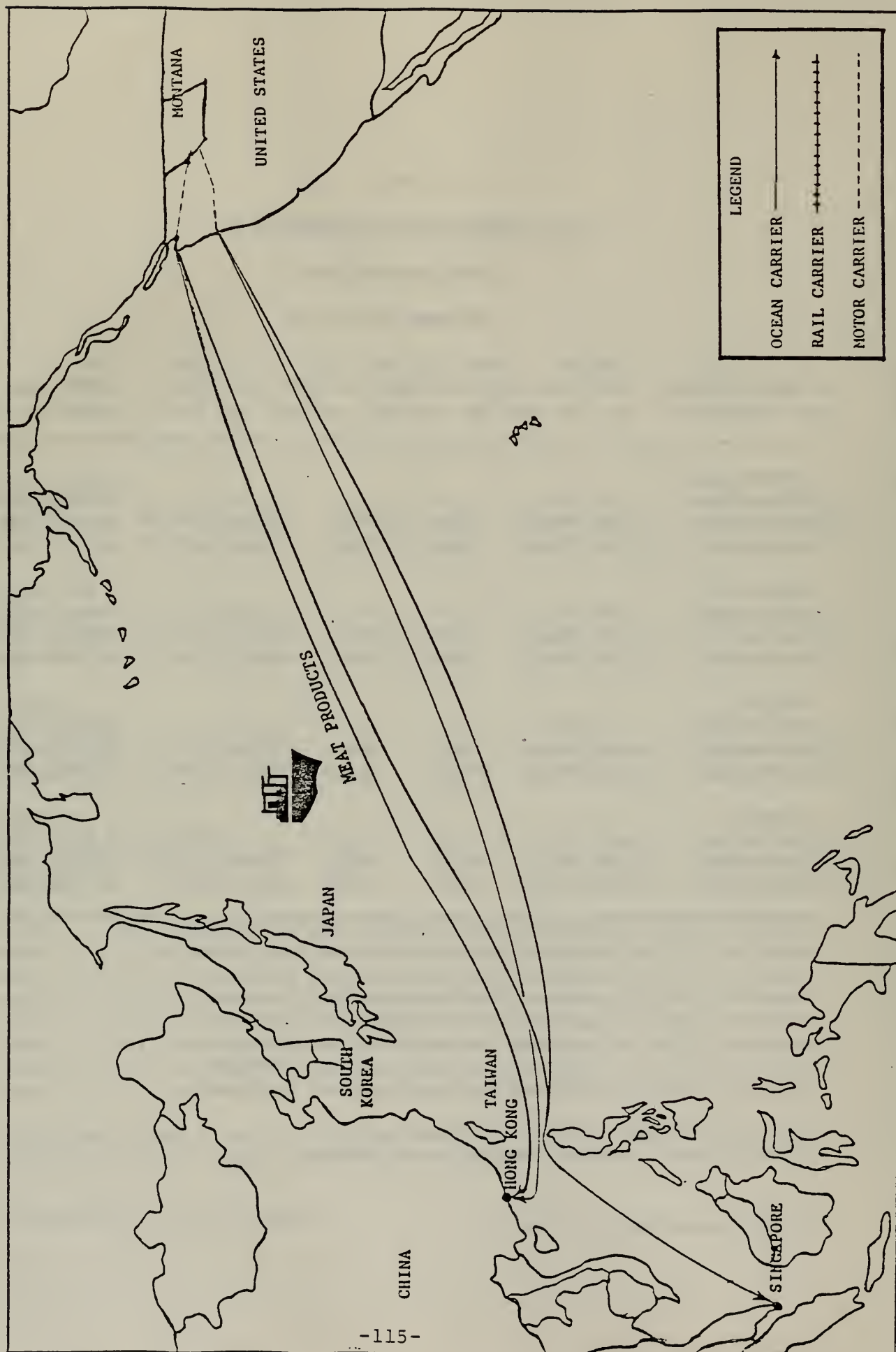
Note: Drayage to Canada included in rail transport costs.

‡ \$250.00 per metric ton inland transportation cost estimated.

(For Table Explanatory notes refer to Appendix H)

Figure 7.5

WESTBOUND TRADE ROUTES FOR MEAT PRODUCTS



liner. As shown in Tables 7.3 and 7.4, meat products can be transported to Hong Kong at a delivered cost of \$6,356.90 per metric ton under Alternative 3.1 and \$6,356.90 per metric ton under Alternative 3.2. The delivered costs under either alternative are slightly lower than the existing delivered price of \$6,615 per metric ton.

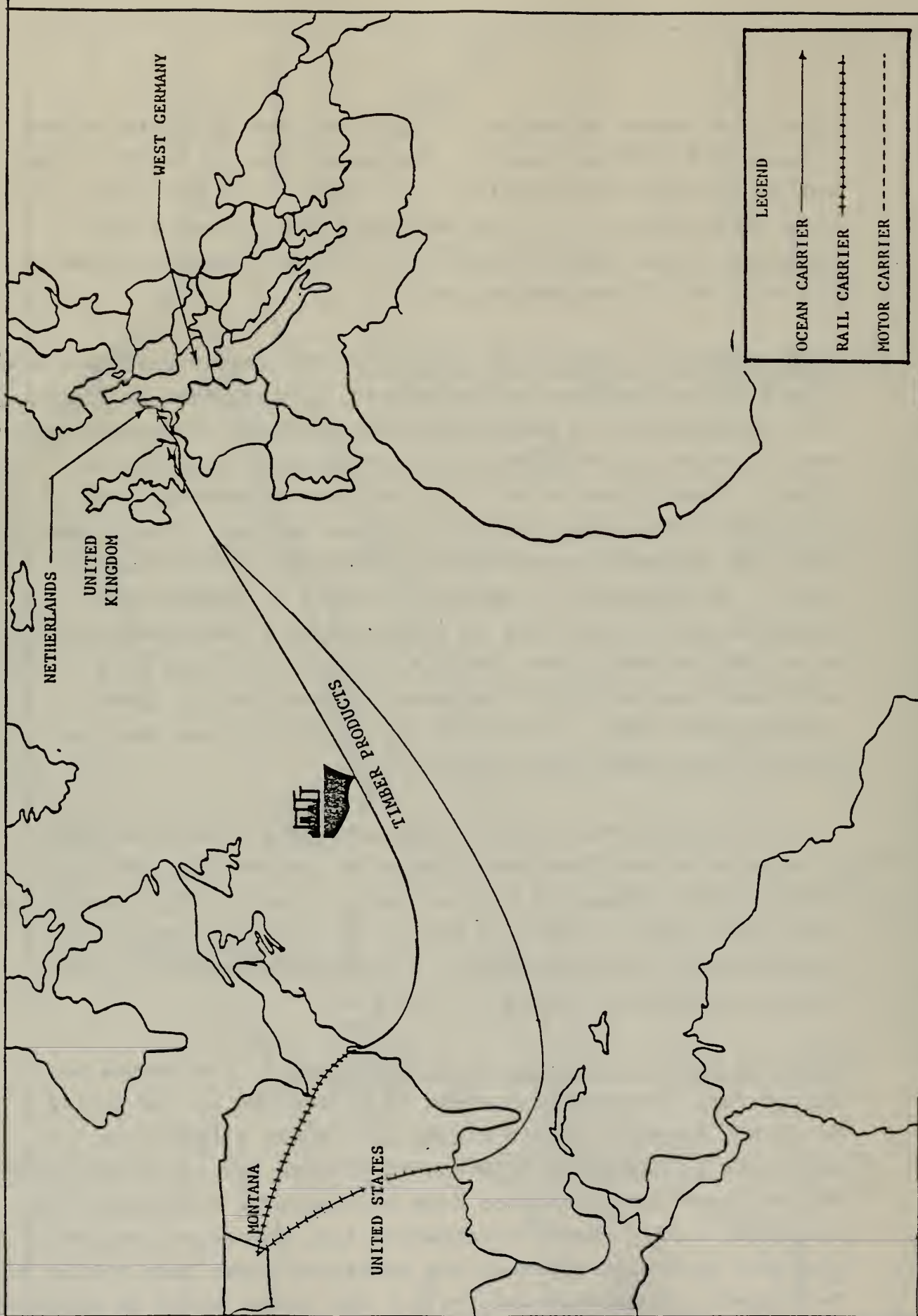
Meat Products: Montana to Singapore The routes analyzed were from Billings, Montana to Singapore. As indicated in Figure 7.5, Alternative 4.1 progresses from Billings to Seattle via motor carrier and from Seattle to Hong Kong via container liner. Under Alternative 4.2, the route progresses from Billings to Portland, Oregon via motor carrier. Meat products are then shipped from Portland to Singapore via container liner. As presented in Tables 7.3 and 7.4, Montana meat products can be delivered to Singapore at a delivered cost of \$6,418.90 per metric ton under Alternative 4.1 and at a delivered cost of \$6,418.90 under Alternative 4.2. Both alternatives offer a delivered cost slightly less than the existing delivered price of \$6,615.00.

The transportation cost component of the existing delivered price to Singapore appears to include only the ocean carrier cost. Based on the results of the Hong Kong survey, an additional \$200 to \$300 per metric ton component of the delivered price is attributable to inland transportation costs and is included in Tables 7.3 and 7.4.

Softwood Lumber: Montana to United Kingdom The routes analyzed were from Butte, Montana to Felixstowe in the United Kingdom. As exhibited in Figure 7.6, under Alternative 1.1, the route progresses from Butte to Chicago and on to Baltimore via rail and then continues from Baltimore to Felixstowe via container liner. Under Alternative 1.2, the route progresses via rail to Mobile and then via container liner from Mobile to Felixstowe. Under Alternative 1.1 the lumber would be contain-

Figure 7.6

EASTBOUND TRADE ROUTES FOR TIMBER PRODUCTS



erized at the source , whereas under Alternative 1.2 the lumber would be containerized at the Port of Mobile. As presented in Tables 7.5 and 7.6, softwood lumber can be transported to the United Kingdom for a delivered cost of \$251.93 per metric ton under Alternative 1.1 and for \$298.53 under Alternative 1.2. Montana softwood lumber has a significant advantage over the existing source which has a delivered price of \$456.00 per metric ton.

Softwood Lumber: Montana to Netherlands The routes analyzed were from Butte, Montana to Rotterdam in the Netherlands. As shown in Figure 7.6, under Alternative 2.1, the route progresses from Butte to Chicago and on to Baltimore via rail, and then from Baltimore to Rotterdam via container liner. Under Alternative 2.2, the route progresses via rail from Butte to Mobile, at which point the lumber is containerized and then shipped on to Rotterdam via container liner. As presented in Tables 7.5 and 7.6, softwood lumber can be transported to the Netherlands for a cost of \$248.83 per metric ton via Alternative 2.1 and for a cost of \$309.05 per metric ton via Alternative 2.2. As was the case with the United Kingdom, Montana delivered costs compare very favorably with the existing delivered price of \$456.00 per metric ton for softwood lumber.

Softwood Lumber: Montana to Peoples Republic of China The routes analyzed were from Butte, Montana to Canton, China. As presented in Figure 7.7, Alternative 3.1 progresses from Butte to Seattle via rail and then from Seattle to Canton via container liner. Under Alternative 3.2, softwood lumber progresses from Butte to Lewiston, Idaho via motor carrier, from Lewiston to Portland, Oregon via rail and then from Portland to Canton via container liner. As shown in Tables 7.5 and 7.6, the delivered cost of Montana softwood lumber is \$202.37 per metric ton under Alternative 3.1 and \$281.61 under Alternative 3.2. Alternative 3.1 offers a considerable cost

Table 7.5

DELIVERED COSTS AND TRANSPORTATION COSTS

Softwood Lumber

Per Metric Ton

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>							
to United Kingdom							
Existing Source	\$357.96	-	-	-	-	\$98.04	\$456.00
Alternative 1.1	\$123.80	\$0.00	\$88.38	\$11.90	\$27.85	\$128.13	\$251.93
Alternative 1.2	\$123.80	\$0.00	\$106.98	\$2.77	\$64.98	\$174.73	\$298.53
to Netherlands							
Existing Source	\$364.80	-	-	-	-	\$91.20	\$456.00
Alternative 2.1	\$123.80	\$0.00	\$88.38	\$11.90	\$24.75	\$125.03	\$248.83
Alternative 2.2	\$123.80	\$0.00	\$106.98	\$2.77	\$75.50	\$185.25	\$309.05
<hr/>							
Softwood Lumber and Logs							
to China							
Existing Source	\$211.70	-	-	-	-	\$23.56	\$235.26
Alternative 3.1	\$123.80	\$0.00	\$33.81	\$25.00	\$19.76	\$78.57	\$202.37
Alternative 3.2	\$123.80	\$101.43	\$11.62	\$25.00	\$19.76	\$157.81	\$281.61

Alternative 1.1: Via rail to Baltimore, then via container liner to Felixstowe.

Alternative 1.2: Via rail to Mobile, then via container liner to Felixstowe.

Alternative 2.1: Via rail to Baltimore, then via container liner to Rotterdam.

Alternative 2.2: Via rail to Mobile, then via container liner to Rotterdam.

Alternative 3.1: Via rail to Seattle, then via container liner to Canton.

Alternative 3.2: Via truck to Lewiston, then via rail to Portland, then via container liner to Canton.

(For Table Explanatory notes refer to Appendix H)

Table 7.6

DELIVERED COSTS AND TRANSPORTATION COSTS

Softwood Lumber

Per Forty Foot Container

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>							
to United Kingdom							
Existing Source	\$7,517.16	-	-	-	-	\$2,058.84	\$9,576.00
Alternative 1.1	\$2,599.80	\$0.00	\$1,855.98	\$249.90	\$584.85	\$2,690.73	\$5,290.53
Alternative 1.2	\$2,599.80	\$0.00	\$2,246.58	\$58.17	\$1,364.58	\$3,669.33	\$6,269.13
to Netherlands							
Existing Source	\$7,660.80	-	-	-	-	\$1,915.20	\$9,576.00
Alternative 2.1	\$2,599.80	\$0.00	\$1,855.98	\$249.90	\$519.75	\$2,625.63	\$5,225.43
Alternative 2.2	\$2,599.80	\$0.00	\$2,246.58	\$58.17	\$1,585.50	\$3,890.25	\$6,490.05

Softwood Lumber and Logs

to China							
Existing Source	\$4,445.70	-	-	-	-	\$494.76	\$4,940.46
Alternative 3.1	\$2,599.80	\$0.00	\$710.01	\$525.00	\$414.96	\$1,649.97	\$4,249.77
Alternative 3.2	\$2,599.80	\$2,130.03	\$244.02	\$525.00	\$414.96	\$3,314.01	\$5,913.81

Alternative 1.1: Via rail to Baltimore, then via container liner to Felixstowe.

Alternative 1.2: Via rail to Mobile, then via container liner to Felixstowe.

Alternative 2.1: Via rail to Baltimore, then via container liner to Rotterdam.

Alternative 2.2: Via rail to Mobile, then via container liner to Rotterdam.

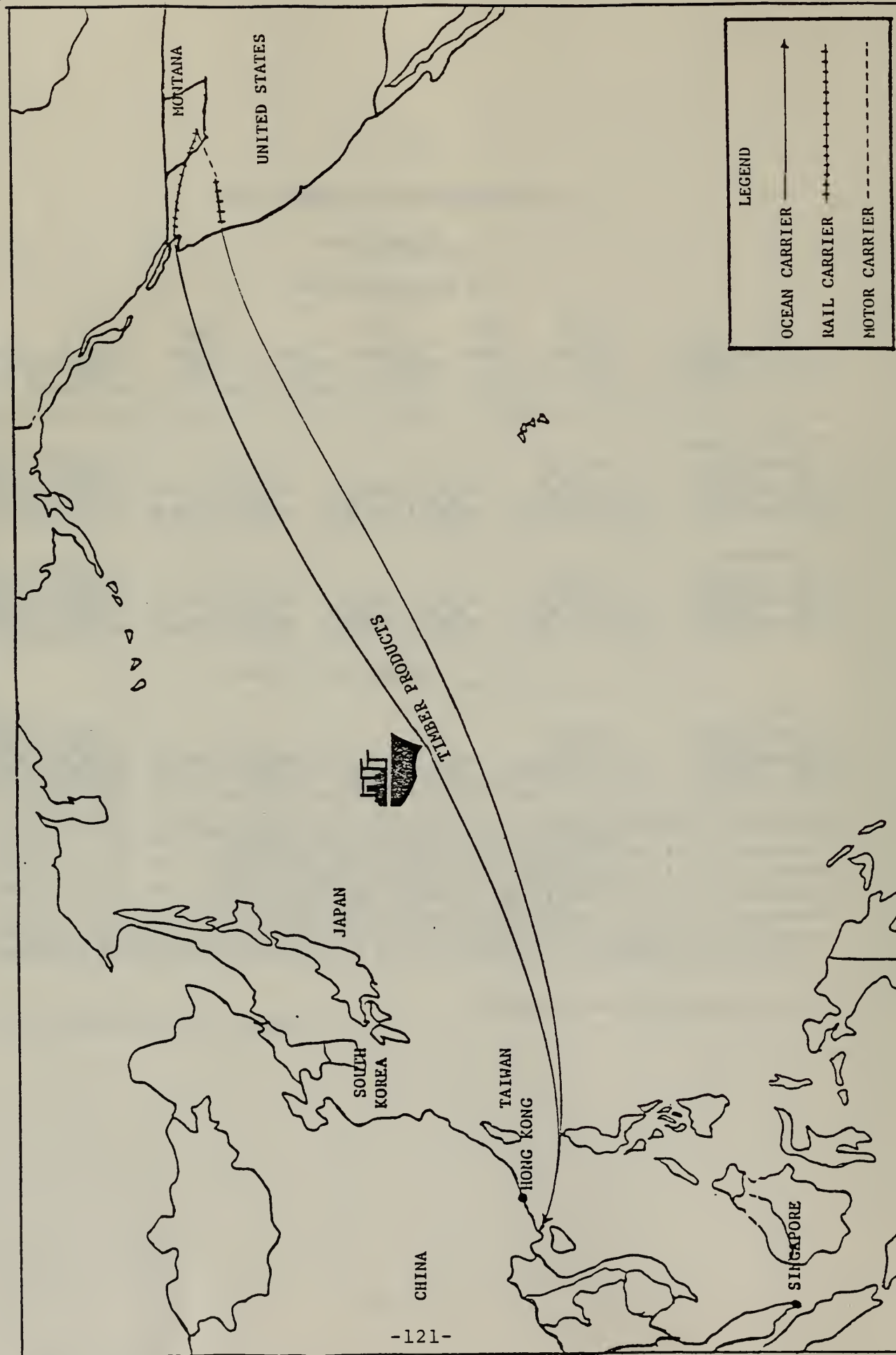
Alternative 3.1: Via rail to Seattle, then via container liner to Canton.

Alternative 3.2: Via truck to Lewiston, then via rail to Portland, then via container liner to Canton.

(For Table Explanatory notes refer to Appendix H)

Figure 7.7

WESTBOUND TRADE ROUTES FOR TIMBER PRODUCTS



saving over the existing delivered price of \$235.26. The U.S. to Asia trade route is a backhaul route for containers so significant savings can be realized by transporting wood products via container. According to the market survey, the wood products can be transported back to China at an ocean cost of \$450 per container. These savings are offset somewhat by the high cost of motor carrier transportation under Alternative 3.2.

Hides: Montana to Peoples Republic of China The routes analyzed were from Great Falls, Montana to Canton, China. As shown in Figure 7.8, under Alternative 1.1, the route progresses from Great Falls, Montana to Seattle, Washington via rail and then from Seattle to Canton via container line. Under Alternative 1.2 the route progresses from Great Falls to Portland via rail and then from Portland to Canton via container liner. As shown in Tables 7.7 and 7.8, cowhides can be delivered to China for a cost of \$1,566.04 per metric ton under Alternative 1.1 and for \$1,574.87 per metric ton under Alternative 1.2. Both alternatives delivered costs compare favorably with the existing delivered price of \$2,046.52 per metric ton.

Hides: Montana to Taiwan The routes analyzed were from Great Falls, Montana to Keelung, Taiwan. As indicated in Figure 7.8, under Alternative 2.1, the route progresses from Great Falls to Seattle via rail, and then on from Seattle to Keelung via container line. Under Alternative 2.2, the route progresses from Great Falls to Portland via rail and then from Portland to Keelung via container liner. Because containers on chassis are required out of Great Falls, the inland transportation costs are higher than they would be otherwise. As shown in Tables 7.7 and 7.8, the delivered cost for skins and hides out of Montana would be \$1,576.45 per metric ton under Alternative 2.1 and \$1,564.04 per metric ton under Alternative 2.2 as compared to \$1,400 per metric ton under existing conditions. Montana

WESTBOUND TRADE ROUTES FOR HIDES, SKINS AND FURS



Table 7.7

DELIVERED COSTS AND TRANSPORTATION COSTS

Hides and Skins

Per Metric Ton

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>							
to China							
Existing Source	\$1,933.97	-	-	-	-	\$112.55	\$2,046.52
Alternative 1.1	\$1,487.12	\$0.00	\$33.33	\$9.12	\$36.47	\$78.92	\$1,566.04
Alternative 1.2	\$1,487.12	\$0.00	\$51.28	\$	\$36.47	\$87.75	\$1,574.87
to Taiwan							
Existing Source	\$1,330.00	-	-	-	-	\$70.00	\$1,400.00
Alternative 2.1	\$1,487.12	\$0.00	\$33.33	\$13.00	\$43.00	\$89.33	\$1,576.45
Alternative 2.2	\$1,487.12	\$0.00	\$51.28	\$	\$25.64	\$76.92	\$1,564.04
to Japan							
Existing Source	\$2,048.56	-	-	-	-	\$202.61	\$2,251.17
Alternative 3.1	\$1,487.12	\$0.00	\$33.33	\$9.12	\$49.00	\$91.45	\$1,578.57
Alternative 3.2	\$1,487.12	\$0.00	\$51.28	\$	\$25.64	\$76.92	\$1,564.04

Alternative 1.1: Via Rail to Seattle, then via container liner to Canton.
Alternative 1.2: Via rail to Portland, then via container liner to Canton.
Alternative 2.1: Via Rail to Seattle, then via container liner to Keelung.
Alternative 2.2: Via rail to Portland, then via container liner to Keelung.
Alternative 3.1: Via Rail to Seattle, then via container liner to Yokohama.
Alternative 3.2: Via rail to Portland, then via container liner to Yokohama.

\$ Included in rail costs.

(For Table Explanatory notes refer to Appendix H)

Table 7.8

DELIVERED COSTS AND TRANSPORTATION COSTS

Hides and Skins

Per Twenty Foot Container

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>							
to China							
Existing Source	\$33,941.17	-	-	-	-	\$1,975.25	\$35,916.43
Alternative 1.1	\$26,098.96	\$0.00	\$584.94	\$160.06	\$640.05	\$1,385.05	\$27,484.00
Alternative 1.2	\$26,098.96	\$0.00	\$899.96	\$0.00	\$640.05	\$1,540.01	\$27,638.97
to Taiwan							
Existing Source	\$23,341.50	-	-	-	-	\$1,228.50	\$24,570.00
Alternative 2.1	\$26,098.96	\$0.00	\$584.94	\$228.15	\$754.65	\$1,567.74	\$27,666.70
Alternative 2.2	\$26,098.96	\$0.00	\$899.96	\$0.00	\$449.98	\$1,349.95	\$27,448.90
to Japan							
Existing Source	\$35,952.23	-	-	-	-	\$3,555.81	\$39,508.03
Alternative 3.1	\$26,098.96	\$0.00	\$584.94	\$160.06	\$859.95	\$1,604.95	\$27,703.90
Alternative 3.2	\$26,098.96	\$0.00	\$899.96	\$0.00	\$449.98	\$1,349.95	\$27,448.90

Alternative 1.1: Via Rail to Seattle, then via container liner to Canton.
Alternative 1.2: Via rail to Portland, then via container liner to Canton.
Alternative 2.1: Via Rail to Seattle, then via container liner to Keelung.
Alternative 2.2: Via rail to Portland, then via container liner to Keelung.
Alternative 3.1: Via Rail to Seattle, then via container liner to Yokohama.
Alternative 3.2: Via rail to Portland, then via container liner to Yokohama.

* Included in rail costs.

(For Table Explanatory notes refer to Appendix H)

cowhides are at a competitive disadvantage with regard to price in Taiwan under current market conditions.

Hides: Montana to Japan The routes analyzed were from Great Falls, Montana to Yokohama, Japan. As shown in Figure 7.8, under Alternative 3.1, the route progresses from Great Falls, Montana to Seattle, Washington via rail, and then on from Seattle to Yokohama via container line. Under Alternative 3.2, the route progresses from Great Falls, Montana to Portland via rail and then on to Yokohama via container liner. As shown in Tables 7.7 and 7.8, the delivered cost of cowhides under Alternative 3.1 would be \$1,578.57 per metric ton. Under Alternative 3.2, the delivered cost would be \$1,564.04. Both alternatives would offer a substantial cost advantage over the current source of cowhides which has a delivered price of \$2,251.17 per metric ton.

Talc: Montana to Japan The routes analyzed were from Great Falls, Montana to Yokohama, Japan. As shown in Figure 7.9, the route progresses from Great Falls to Seattle via rail and then on to Yokohama via ocean carrier under Alternative 1.1. Under Alternative 1.2 the route progresses from Great Falls to Portland via rail and then from Portland to Yokohama via container liner. As shown in Tables 7.9 and 7.10, the delivered cost under Alternative 1.1 is \$121.00 per metric ton and under Alternative 1.2 is \$182.00 per metric ton. Both alternatives produce delivered costs significantly in excess of the current delivered price of \$70.00 per metric ton. Thus, it appears that Montana talc is not a marketable commodity in Japan.

Sunflower Seeds: Montana to West Germany The routes analyzed were from Great Falls, Montana to Hamburg, West Germany. As presented in Figure 7.10, under Alternative 1.1, the route progresses from Great Falls, Montana to Chicago and then from Chicago to Baltimore via rail. The sunflower seeds are then

Figure 7.9

WESTBOUND TRADE ROUTES FOR TALC

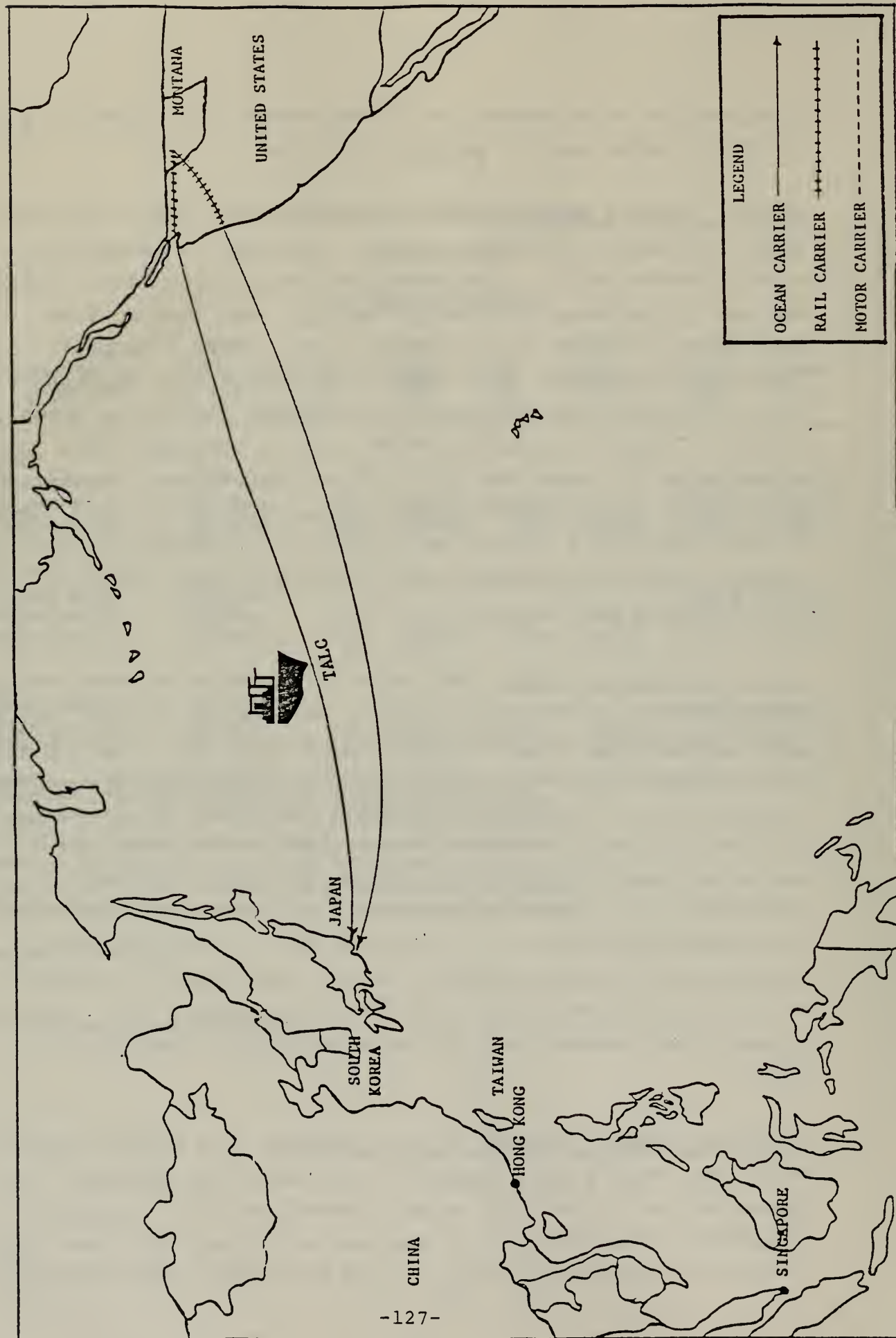


Table 7.9

DELIVERED COSTS AND TRANSPORTATION COSTS

Talc

Per Metric Ton

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>							
to Japan							
Existing Source	\$38.00	-	-	-	-	\$32.00	\$70.00
Alternative 1.1	\$40.00	(1)	\$40.00	(2)	\$41.00	\$81.00	\$121.00
Alternative 1.2	\$40.00	\$0.00	\$39.00	\$19.00	\$84.00	\$142.00	\$182.00

Alternative 1.1: Via rail to Seattle, then via container liner to Yokohama.

Alternative 1.2: Via rail to Portland, then via container liner to Yokohama.

(1) Included with rail cost.

(2) Included with ocean carrier cost.

(For Table Explanatory notes refer to Appendix H)

Table 7.10

DELIVERED COSTS AND TRANSPORTATION COSTS

Talc

Per Twenty Foot Container

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>							
to Japan							
Existing Source	\$672.22	-	-	-	-	\$566.08	\$1,238.30
Alternative 1.1	\$707.60	(1)	\$707.60	(2)	\$725.29	\$1,432.89	\$2,140.49
Alternative 1.2	\$707.60	\$0.00	\$689.91	\$336.11	\$1,485.96	\$2,511.98	\$3,219.58

Alternative 1.1: Via rail to Seattle, then via container liner to Yokohama.

Alternative 1.2: Via rail to Portland, then via container liner to Yokohama.

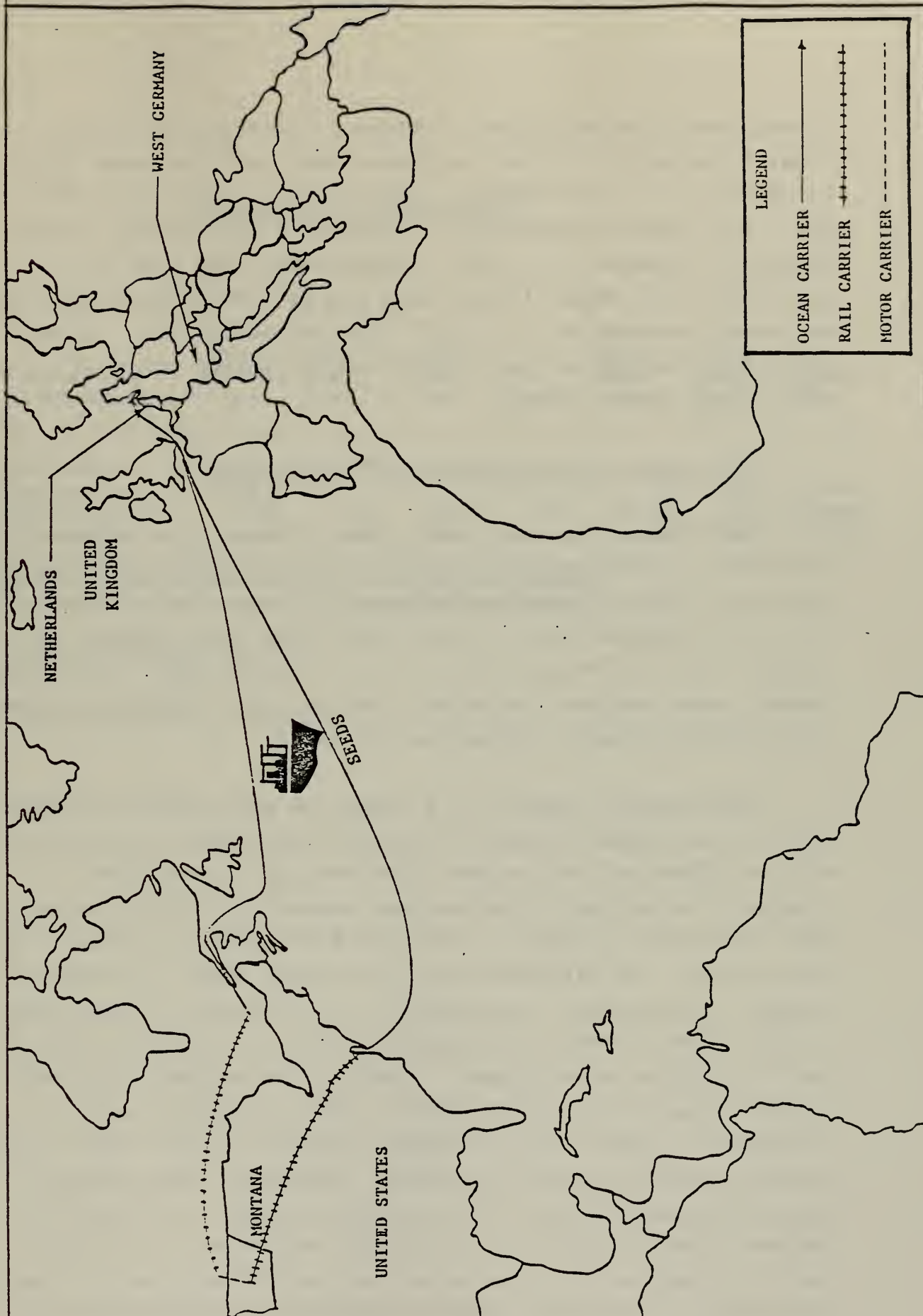
(1) Included with rail cost.

(2) Included with ocean carrier cost.

(For Table Explanatory notes refer to Appendix H)

Figure 7.10

EASTBOUND TRADE ROUTES FOR SEED



transported from Baltimore to Hamburg via container liner. Under Alternative 1.2 the sunflower seeds go from Great Falls to Calgary via motor carrier, from Calgary to Montreal via rail, and then from Montreal to Hamburg via container liner. As shown in Tables 7.11 and 7.12, the delivered cost of sunflower seeds under Alternative 1.1 is \$306.86 per metric ton and under Alternative 1.2 is \$297.88 per metric ton. These costs are about equal to the existing delivered price of \$300.00 per metric ton.

7.22 Impact of Exchange Rate Fluctuations

The delivered prices and transportation rates are as of mid-1985. If the exchange rate of the U.S. dollar declines as expected, Montana commodity prices will become more competitive. The reduced dollar value would also help restore the balance of trade between the U.S. and the Far East, which would permit ocean carriers to raise rates on their backhaul routes and thereby increase transportation costs.

The potential impact of a change in the foreign exchange rate can be traced through a hypothetical example involving the sale of prime and choice beef from Montana to the United Kingdom. According to the Montana market survey, the existing delivered price of beef at the United Kingdom was \$5,512.50 per metric ton. The delivered cost of Montana beef to the United Kingdom via Montreal was \$6,399.77. At the time of the survey - early Summer 1985 - the exchange rate was 1.29 U.S. dollars per 1.0 British pound (June 3, 1985). The exchange rate has since climbed to 1.42 U.S. dollars per 1.0 British pound (October 17, 1985), a 10.1 percent increase in the value of the British pound vs. the U.S. dollar. Therefore, the existing delivered price of beef at the United Kingdom has risen 10.1 percent, from \$5,512.50 to \$6,069.00, expressed in U.S. dollars. If the value of the pound vs. the dollar were to rise an additional 5.5 percent, Montana beef would become competitive.

Table 7.11

DELIVERED COSTS AND TRANSPORTATION COSTS

Sunflower Seeds

Per Metric Ton

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>							
to West Germany							
Existing Source	\$150.00	-	-	-	-	\$150.00	\$300.00
Alternative 1.1	\$165.00	\$0.00	\$100.12	\$4.01	\$37.73	\$141.86	\$306.86
Alternative 1.2	\$165.00	\$36.37	\$45.63	‡	\$50.88	\$132.88	\$297.88

Alternative 1.1: Via rail to Baltimore, then via container liner to Hamburg.

Alternative 1.2: Via rail to Montreal, then via container liner to Hamburg.

‡ Included with ocean carrier costs.

(For Table Explanatory notes refer to Appendix H)

Table 7.12

DELIVERED COSTS AND TRANSPORTATION COSTS

Sunflower Seeds

Per Twenty Foot Container

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>							
to West Germany							
Existing Source	\$2,400.00	-	-	-	-	\$2,400.00	\$4,800.00
Alternative 1.1	\$2,640.00	\$0.00	\$1,601.92	\$64.16	\$603.68	\$2,269.76	\$4,909.76
Alternative 1.2	\$2,640.00	\$581.92	\$730.08	‡	\$814.08	\$2,126.08	\$4,766.08

Alternative 1.1: Via rail to Baltimore, then via container liner to Hamburg.

Alternative 1.2: Via rail to Montreal, then via container liner to Hamburg.

‡ Included with ocean carrier costs.

(For Table Explanatory notes refer to Appendix H)

The above example is a simplified case. The currencies of countries which supply the United Kingdom with beef products, particularly Canada and Australia, would also have to experience similar increases in value vs. the U.S. dollar in order for the above example to be relevant. An additional complicating factor with regard to Canada is that an increase in the value of the Canadian dollar vs. the U.S. dollar would increase transportation costs via Montreal. However, since FOB costs are a much greater component of delivered costs than transportation costs, a fall in the U.S. dollar vs. the Canadian dollar would still benefit Montana exports. Finally, it should be noted that a fall in the value of the U.S. dollar will not benefit Montana when the competition for foreign markets is from elsewhere in the United States.

7.23 Summary

Total imports of target commodities to all target markets, expressed in both metric tons and dollars, are presented in Table 7.13. The estimated potential Montana share in metric tons and dollars is also included. The data are based on the Montana market surveys summarized in Tables 6.1 through 6.9.

Based on the cost information presented in Tables 7.1 through 7.12, six market areas show significant potential for Montana exports. They are as follows:

- Bituminous Coal - Korea
- Barley - Taiwan
- Softwood Lumber - United Kingdom
- Softwood Lumber - Netherlands
- Softwood Lumber - Peoples Republic of China
- Hides - Peoples Republic of China

Other market areas in which Montana has a moderate cost advantage are:

- Wheat - Japan

Table 7.13

KEY COMMODITY IMPORTS INTO TARGET MARKETS
TOTAL AND ESTIMATED POTENTIAL MONTANA SHARE

Commodity	Total Tonnage Imported By Target Markets	Total Value Imported By Target Markets (\$000)	Total Projected Montana Share In Tons	Total Projected Montana Share In Dollars (\$000)
Bituminous Coal	16,800,000	\$901,800	536,250	\$28,666
Wheat	21,743,093	\$4,849,081	1,578,178	\$283,107
Barley	185,000	\$20,616	1,800	\$288
Prime & Choice Beef	432,782	\$1,531,362	47,181	\$245,091
Softwood Lumber	9,693,443	\$3,144,684	833,540	\$247,871
Hides & Skins†	28,035	\$61,649	N/A	N/A
Talc	20,720	\$1,472	12,980	\$914
Sunflower Seeds	370,000	\$111,000	22,200	\$6,660
Total	49,273,073	\$10,621,664	3,032,130	\$812,598

Source: Exhibits 1 through 9.

† Does not include data for the Peoples Republic of China.

N/A - NOT AVAILABLE

- Wheat - Hong Kong
- Prime and Choice Beef - Hong Kong
- Prime and Choice Beef - Singapore

Table 7.14 presents the total imports by market and the estimated potential Montana share of these target market areas.

As indicated in the previous section, a fall in the U.S. dollar vs. other foreign currencies could open up additional market areas.

7.3 Maritime Inland Waterway Options and Cost Comparisons

This section provides a comparison of inland waterway options with respect to the transportation route alternatives described in the previous section. A substitution of water carriage was made for segments of rail and motor carrier modes in the transportation of Montana commodities.

Three commodities were selected for further analysis for the feasibility of transportation via inland waterway. They are bituminous coal, grain (wheat and barley), and softwood lumber. These commodities were selected for further analysis because they are bulk commodities, they have high weight to value ratios, and possess low perishability.

7.31 Water Route Analysis and Comparison

The format for the analysis is similar to that used in Section 7.2. The costs of applicable inland water transportation alternatives are compared with existing delivered costs and the alternatives previously evaluated in Section 7.2. Costs are segmented by Montana FOB costs, motor carrier costs, rail costs, inland water carrier costs, port costs and ocean carrier costs. The results are as follows:

Table 7.14

TARGET MARKET AREAS
TOTAL AND ESTIMATED POTENTIAL MONTANA SHARE

Target Market Area	Total Tonnage Imported By Target Markets	Total Value Imported By Target Markets (\$000)	Total Projected Montana Share In Tons	Total Projected Montana Share In Dollars (\$000)
Bit. Coal - Korea	2,000,000	\$161,800	60,000	\$4,854
Barley - Taiwan	60,000	\$9,600	1,800	\$288
Lumber - U.K.	3,392,569	\$1,662,359	203,554	\$99,741
Lumber - Netherlands	5,428	\$2,660	326	\$159
Lumber - China	6,290,000	\$1,479,554	629,000	\$147,953
Hides - China	NA	NA	NA	NA
Wheat - Japan	1,200,000	\$228,000	672,000	\$127,680
Wheat - Hong Kong	123,093	\$23,265	88,627	\$16,750
Beef - Hong Kong	200,000	\$1,323,000	35,000	\$231,525
Beef - Singapore	1,182	\$7,819	207	\$1,368
Total	13,272,272	\$4,898,057	1,690,514	\$630,318

Coal: Montana to Netherlands The routes analyzed were from Billings, Montana to Rotterdam in the Netherlands. Rate/cost comparisons between the existing source and four alternatives are presented in Table 7.15. Alternatives 1.1 and 1.2 have been previously described in Section 7.2. Under Alternative 1.3, coal progresses from Billings to Duluth via rail, from Duluth to Montreal on lakers via the Great Lakes and the St. Lawrence Seaway, and then from Montreal to Rotterdam via tramp steamer. Under Alternative 1.4, coal progresses from Billings to St. Paul via rail, then down the Mississippi River to New Orleans via barge, and on to Rotterdam via tramp steamer. Inland water transportation costs on the Mississippi can vary depending on the season from \$11.00 in Spring to \$16.50 in Autumn. As shown in Table 7.15, Alternative 1.3 provides the least expensive delivered cost. At \$45.25 per metric ton, it is the only alternative which can undercut the existing delivered price. Because the BTU content of Montana coal is less than average, the alternative delivered costs may be underestimated on a BTU basis.

Coal: Montana to West Germany The routes analyzed were from Billings, Montana to Hamburg, West Germany. Comparisons of the rates and costs between the existing source of coal and four transportation alternatives are presented in Table 7.15. Alternatives 2.1 and 2.2 have been previously described in Section 7.2. Under Alternative 2.3, coal progresses from Billings to Duluth via rail, from Duluth to Montreal on lakers via the Great Lakes and the St. Lawrence Seaway, and then from Montreal to Hamburg via tramp steamer. Under Alternative 2.4, coal progresses from Billings to St. Paul via rail, then down the Mississippi River via barge, and on to Hamburg via tramp steamer. As shown in Table 7.15, coal can be delivered at an average cost of \$45.25 per metric ton under Alternative 2.3 and for \$50.14 per metric ton under Alternative 2.4 as compared to the existing delivered price of \$50.00 per metric ton.

Table 7.15

DELIVERED COSTS AND TRANSPORTATION COSTS

Coal (Bituminous)

Per Metric Ton

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Inland Water Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>								
to Netherlands								
Existing Source	\$20.00	-	-	-	-	-	\$30.00	\$50.00
Alternative 1.1	\$10.00	\$0.00	\$38.48	\$0.00	\$3.00	\$5.50	\$46.98	\$56.98
Alternative 1.2	\$10.00	\$0.00	\$44.68	\$0.00	\$3.00	\$5.25	\$52.93	\$62.93
Alternative 1.3	\$10.00	\$0.00	\$16.00	\$11.00	\$3.00	\$5.25	\$35.25	\$45.25
Alternative 1.4	\$10.00	\$0.00	\$17.64	\$14.00	\$3.00	\$5.50	\$40.14	\$50.14
to West Germany								
Existing Source	\$33.33	-	-	-	-	-	\$16.67	\$50.00
Alternative 2.1	\$10.00	\$0.00	\$38.48	\$0.00	\$3.00	\$5.50	\$46.98	\$56.98
Alternative 2.2	\$10.00	\$0.00	\$44.68	\$0.00	\$3.00	\$5.25	\$52.93	\$62.93
Alternative 2.3	\$10.00	\$0.00	\$16.00	\$11.00	\$3.00	\$5.25	\$35.25	\$45.25
Alternative 2.4	\$10.00	\$0.00	\$17.64	\$14.00	\$3.00	\$5.50	\$40.14	\$50.14
to Korea								
Existing Source	\$63.91	-	-	-	-	-	\$16.99	\$80.90
Alternative 3.1	\$10.00	\$0.00	\$18.06	\$0.00	\$3.00	\$10.00	\$31.06	\$41.06
Alternative 3.2	\$10.00	\$0.00	\$29.04	\$0.00	\$3.00	\$10.00	\$42.04	\$52.04
Alternative 3.3	\$10.00	\$0.00	\$14.24	\$8.70	\$3.00	\$10.00	\$35.94	\$45.94

Alternative 1.1: Via rail to New Orleans, then via tramp steamer to Rotterdam.

Alternative 1.2: Via rail to Norfolk, then via tramp steamer to Rotterdam.

Alternative 1.3: Via rail to Duluth, then via laker to Montreal and via tramp steamer to Rotterdam.

Alternative 1.4: Via rail to St. Paul, then via barge to New Orleans and via tramp steamer to Rotterdam.

Alternative 2.1: Via rail to New Orleans, then via tramp steamer to Hamburg.

Alternative 2.2: Via rail to Norfolk, then via tramp steamer to Hamburg.

Alternative 2.3: Via rail to Duluth, then via laker to Montreal and via tramp steamer to Hamburg.

Alternative 2.4: Via rail to St. Paul, then via barge to New Orleans and via tramp steamer to Hamburg.

Alternative 3.1: Via rail to Seattle, then via tramp steamer to Pusan.

Alternative 3.2: Via rail to Los Angeles, then via tramp steamer to Pusan.

Alternative 3.3: Via rail to Lewiston, then via barge to Portland, and from Portland to Pusan via tramp steamer.

(For Table Explanatory notes refer to Appendix H)

Coal: Montana to South Korea The routes analyzed were from Billings, Montana to Pusan in the Republic of Korea. Comparisons of the rates and costs between the existing source of coal and three transportation alternatives are presented in Table 7.15. Alternatives 3.1 and 3.2 have been previously described in Section 7.2. Under Alternative 3.3, coal progresses from Billings, Montana to Lewiston, Idaho via rail and then from Lewiston to Portland, Oregon via barge on the Snake and Columbia Rivers. From Portland, the coal goes on to Pusan via tramp steamer. As shown on Table 7.15, coal can be delivered to Pusan for \$45.94 per metric ton under Alternative 3.3. Although the cost under Alternative 3.3 is significantly less than the existing delivered price of \$80.90, it is still greater than the delivered cost under Alternative 3.1. Part of the reason for the additional expense under Alternative 3.3 is the circuitous rail route between Billings and Lewiston, Idaho which increases the rail segment of the transportation cost.

Wheat: Montana to South Korea The routes analyzed were from Great Falls, Montana to Pusan, South Korea. Segmented cost/rate comparisons between the existing wheat source and three transportation alternatives are presented in Table 7.16. Alternatives 1.1 and 1.2 have been previously described in Section 7.2. Under Alternative 1.3, wheat progresses from Great Falls to Lewiston, Idaho via motor carrier, then goes to Portland, Oregon via barge through the Snake and Columbia Rivers, and on to Pusan via ocean carrier. As shown in Table 7.16, wheat can be delivered to Pusan for a cost of \$175.52 per metric ton. This cost is roughly equivalent to the delivered costs under Alternatives 1.1 and 1.2 and significantly greater than the existing delivered price of \$156.00 per metric ton.

Wheat: Montana to Japan The routes analyzed were from Great Falls, Montana to Yokohama, Japan. Segmented cost/rate comparisons between the existing wheat source and three transporta-

Table 7.16

DELIVERED COSTS AND TRANSPORTATION COSTS

Grain (Wheat)

Per Metric Ton

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Inland Water Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>								
to Korea								
Existing Source	\$136.97	-	-	-	-	-	\$19.03	\$156.00
Alternative 1.1	\$135.18	\$0.00	\$33.73	\$0.00	\$3.00	\$11.00	\$47.73	\$182.91
Alternative 1.2	\$135.18	\$0.00	\$35.94	\$0.00	\$3.00	\$11.00	\$49.94	\$185.12
Alternative 1.3	\$135.18	\$17.64	\$0.00	\$8.70	\$3.00	\$11.00	\$40.34	\$175.52
to Japan								
Existing Source	\$171.00	-	-	-	-	-	\$19.00	\$190.00
Alternative 2.1	\$135.18	\$0.00	\$33.73	\$0.00	\$3.00	\$7.75	\$44.48	\$179.66
Alternative 2.2	\$135.18	\$0.00	\$35.94	\$0.00	\$3.00	\$7.75	\$46.69	\$181.87
Alternative 2.3	\$135.18	\$17.64	\$0.00	\$8.70	\$3.00	\$7.75	\$37.09	\$172.27
to Hong Kong								
Existing Source	\$155.92	-	-	-	-	-	\$33.08	\$189.00
Alternative 3.1	\$135.18	\$0.00	\$33.73	\$0.00	\$3.00	\$11.00	\$47.73	\$182.91
Alternative 3.2	\$135.18	\$0.00	\$35.94	\$0.00	\$3.00	\$11.00	\$49.94	\$185.12
Alternative 3.3	\$135.18	\$17.64	\$0.00	\$8.70	\$3.00	\$11.00	\$40.34	\$175.52
to Singapore								
Existing Source	\$163.02	-	-	-	-	-	\$26.98	\$190.00
Alternative 4.1	\$135.18	\$0.00	\$33.73	\$0.00	\$3.00	\$18.00	\$54.73	\$189.91
Alternative 4.2	\$135.18	\$0.00	\$35.94	\$0.00	\$3.00	\$18.00	\$56.94	\$192.12
Alternative 4.3	\$135.18	\$17.64	\$0.00	\$8.70	\$3.00	\$18.00	\$47.34	\$182.52
to Taiwan (Barley)								
Existing Source	\$138.40	-	-	-	-	-	\$21.60	\$160.00
Alternative 5.1	\$90.41	\$0.00	\$33.73	\$0.00	\$3.00	\$8.50	\$45.23	\$135.64
Alternative 5.2	\$90.41	\$0.00	\$35.94	\$0.00	\$3.00	\$8.50	\$47.44	\$137.85
Alternative 5.3	\$90.41	\$17.64	\$0.00	\$8.70	\$3.00	\$8.50	\$37.84	\$128.25

Alternative 1.1: Via rail to Seattle, then via tramp steamer to Pusan.
Alternative 1.2: Via rail to Portland, then via tramp steamer to Pusan.
Alternative 1.3: Via motor carrier to Lewiston, then via barge to Portland, and by tramp steamer to Pusan.
Alternative 2.1: Via rail to Seattle, then via tramp steamer to Yokohama.
Alternative 2.2: Via rail to Portland, then via tramp steamer to Yokohama.
Alternative 2.3: Via motor carrier to Lewiston, then via barge to Portland, and by tramp steamer to Yokohama.
Alternative 3.1: Via rail to Seattle, then via tramp steamer to Hong Kong.
Alternative 3.2: Via rail to Portland, then via tramp steamer to Hong Kong.
Alternative 3.3: Via motor carrier to Lewiston, then via barge to Portland, and by tramp steamer to Hong Kong.
Alternative 4.1: Via rail to Seattle, then via tramp steamer to Singapore.
Alternative 4.2: Via rail to Portland, then via tramp steamer to Singapore.
Alternative 4.3: Via motor carrier to Lewiston, then via barge to Portland, and by tramp steamer to Singapore.
Alternative 5.1: Via rail to Seattle, then via tramp steamer to Keelung.
Alternative 5.2: Via rail to Portland, then via tramp steamer to Keelung.
Alternative 5.3: Via motor carrier to Lewiston, then via barge to Portland, and by tramp steamer to Keelung.

(For Table Explanatory notes refer to Appendix H)

tion alternatives are presented in Table 7.16. Alternatives 2.1 and 2.2 have been previously described in Section 7.2. Under Alternative 2.3, wheat progresses from Great Falls to Lewiston, Idaho via motor carrier, then goes to Portland, Oregon via barge through the Snake and Columbia Rivers, and on to Yokohama via ocean carrier. As shown in Table 7.16, wheat can be delivered to Yokohama for a cost of \$172.27 per metric ton. This cost is slightly less than the delivered costs under Alternatives 2.1 and 2.2 and less than the existing delivered price of \$190.00 per metric ton.

Wheat: Montana to Hong Kong The routes analyzed were from Great Falls, Montana to Hong Kong. Comparisons of costs and rates between the existing wheat source and three transportation alternatives are presented in Table 7.16. Alternatives 3.1 and 3.2 have been previously described in Section 7.2. Under Alternative 3.3, wheat progresses from Great Falls to Lewiston via motor carrier, then via barge along the Snake and Columbia Rivers to Portland, and on to Hong Kong via tramp steamer. As shown in Table 7.16, wheat can be delivered to Hong Kong at a cost of \$175.52 per metric ton under Alternative 3.3, which is comparable to the costs under Alternatives 3.1 and 3.2 and less than the existing delivered price of \$189.00 per metric ton.

Wheat: Montana to Singapore The routes analyzed were from Great Falls, Montana to Singapore. Comparisons of costs and rates between the existing wheat source and three transportation alternatives are presented in Table 7.16. Alternatives 4.1 and 4.2 have already been described in Section 7.2. Under Alternative 4.3, wheat progresses from Great Falls to Lewiston, Idaho via motor carrier, then from Lewiston to Portland, Oregon via barge, and on to Singapore via tramp steamer. As shown in Table 7.16, wheat can be delivered to Singapore at a cost of \$182.52 per metric ton. This cost is slightly less than the existing delivered price of \$190.00 per metric ton and also

slightly less relative to the delivered costs under Alternatives 4.1 and 4.2.

Barley: Montana to Taiwan The routes analyzed were from Great Falls, Montana to Keelung in the Republic of China in Taiwan. Segmented cost/rate comparisons between the existing barley source and three transportation alternatives are presented in Table 7.16. Alternatives 5.1 and 5.2 have been previously described in Section 7.2. Under Alternative 5.3, barley progresses from Great Falls to Lewiston, Idaho via motor carrier, then from Lewiston to Portland, Oregon via barge along the Snake and the Columbia Rivers, and on to Keelung via tramp steamer. As shown in Table 7.16, Montana barley can be delivered to Keelung at a cost of \$128.25 per metric ton. This cost is slightly less than the delivered costs under Alternatives 5.1 and 5.2 and significantly less than the existing delivered price of \$160.00 per metric ton. Montana barley can continue to be competitive in Taiwan under all three transportation alternatives.

Softwood Lumber: Montana to United Kingdom The routes analyzed were from Butte, Montana to Felixstowe in the United Kingdom. Segmented cost/rate comparisons between the existing lumber source and four transportation alternatives are presented in Tables 7.17 and 7.18. Alternatives 1.1 and 1.2 have already been described in Section 7.2. Under Alternative 1.3, softwood lumber progresses from Butte to Duluth via rail, is then loaded onto lakers and shipped via the Great Lakes and the St. Lawrence Seaway to Montreal, and then shipped from Montreal to Felixstowe via container liner. Under Alternative 1.4, lumber is shipped from Butte to St. Paul via rail, from St. Paul to New Orleans via barge on the Mississippi River, and then via container liner from New Orleans to Felixstowe. As shown in Table 7.17, Montana lumber can be delivered to Felixstowe at a delivered cost of \$244.49 per metric ton under Alternative 1.3 and at a cost of \$260.06 per metric ton under

Table 7.17

DELIVERED COSTS AND TRANSPORTATION COSTS

Softwood Lumber

Per Metric Ton

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Inland Water Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>								
to United Kingdom								
Existing Source	\$357.96	-	-	-	-	-	\$98.04	\$456.00
Alternative 1.1	\$123.80	\$0.00	\$88.38	\$0.00	\$11.90	\$27.85	\$128.13	\$251.93
Alternative 1.2	\$123.80	\$0.00	\$106.98	\$0.00	\$2.77	\$64.98	\$174.73	\$298.53
Alternative 1.3	\$123.80	\$0.00	\$48.13	\$25.00	\$10.00	\$37.56	\$120.69	\$244.49
Alternative 1.4	\$123.80	\$0.00	\$47.51	\$21.00	\$2.77	\$64.98	\$136.26	\$260.06
to Netherlands								
Existing Source	\$364.80	-	-	-	-	-	\$91.20	\$456.00
Alternative 2.1	\$123.80	\$0.00	\$88.38	\$0.00	\$11.90	\$24.75	\$125.03	\$248.83
Alternative 2.2	\$123.80	\$0.00	\$106.98	\$0.00	\$2.77	\$75.50	\$185.25	\$309.05
Alternative 2.3	\$123.80	\$0.00	\$48.13	\$25.00	\$10.00	\$33.38	\$116.51	\$240.31
Alternative 2.4	\$123.80	\$0.00	\$47.51	\$21.00	\$2.77	\$75.50	\$146.78	\$270.58
to China								
			Softwood Lumber and Logs					
Existing Source	\$211.70	-	-	-	-	-	\$23.56	\$235.26
Alternative 3.1	\$123.80	\$0.00	\$33.81	\$0.00	\$25.00	\$19.76	\$78.57	\$202.37
Alternative 3.2	\$123.80	\$101.43	\$11.62	\$0.00	\$25.00	\$19.76	\$157.81	\$281.61
Alternative 3.3	\$123.80	\$0.00	\$24.77	\$10.67	\$25.00	\$19.76	\$80.20	\$204.00

Alternative 1.1: Via rail to Baltimore, then via container liner to Felixstowe.

Alternative 1.2: Via rail to Mobile, then via container liner to Felixstowe.

Alternative 1.3: Via rail to Duluth, then via laker to Montreal, then via container line to Felixstowe.

Alternative 1.4: Via rail to St. Paul, then via barge to New Orleans, then via container liner to Felixstowe.

Alternative 2.1: Via rail to Baltimore, then via container liner to Rotterdam.

Alternative 2.2: Via rail to Mobile, then via container liner to Rotterdam.

Alternative 2.3: Via rail to Duluth, then via laker to Montreal, then via container line to Rotterdam.

Alternative 2.4: Via rail to St. Paul, then via barge to New Orleans, then via container liner to Rotterdam.

Alternative 3.1: Via rail to Seattle, then via container liner to Canton.

Alternative 3.2: Via truck to Lewiston, then via rail to Portland, then via container liner to Canton.

Alternative 3.3: Via rail to Lewiston, then via barge to Portland, and via container liner to Canton.

(For Table Explanatory notes refer to Appendix H)

Table 7.18

DELIVERED COSTS AND TRANSPORTATION COSTS

Softwood Lumber

Per Forty Foot Container

Destination and Alternatives	Price W/O Trans. Cost	Motor Carrier Cost	Rail Transport Cost	Inland Water Cost	Port Costs	Ocean Carrier Cost	Total Transport Cost	Delivered Cost
<hr/>								
to United Kingdom								
Existing Source	\$7,517.16	-	-	-	-	-	\$2,058.84	\$9,576.00
Alternative 1.1	\$2,599.80	\$0.00	\$1,855.98	\$0.00	\$249.90	\$584.85	\$2,690.73	\$5,290.53
Alternative 1.2	\$2,599.80	\$0.00	\$2,246.58	\$0.00	\$58.17	\$1,364.58	\$3,669.33	\$6,269.13
Alternative 1.3	\$2,599.80	\$0.00	\$1,010.73	\$525.00	\$210.00	\$788.76	\$2,534.49	\$5,134.29
Alternative 1.4	\$2,599.80	\$0.00	\$997.71	\$441.00	\$58.17	\$1,364.58	\$2,861.46	\$5,461.26
to Netherlands								
Existing Source	\$7,660.80	-	-	-	-	-	\$1,915.20	\$9,576.00
Alternative 2.1	\$2,599.80	\$0.00	\$1,855.98	\$0.00	\$249.90	\$519.75	\$2,625.63	\$5,225.43
Alternative 2.2	\$2,599.80	\$0.00	\$2,246.58	\$0.00	\$58.17	\$1,585.50	\$3,890.25	\$6,490.05
Alternative 2.3	\$2,599.80	\$0.00	\$1,010.73	\$525.00	\$210.00	\$700.98	\$2,446.71	\$5,046.51
Alternative 2.4	\$2,599.80	\$0.00	\$997.71	\$441.00	\$58.17	\$1,585.50	\$3,082.38	\$5,682.18
to China								
Softwood Lumber and Logs								
Existing Source	\$4,445.70	-	-	-	-	-	\$494.76	\$4,940.46
Alternative 3.1	\$2,599.80	\$0.00	\$710.01	\$0.00	\$525.00	\$414.96	\$1,649.97	\$4,249.77
Alternative 3.2	\$2,599.80	\$2,130.03	\$244.02	\$0.00	\$525.00	\$414.96	\$3,314.01	\$5,913.81
Alternative 3.3	\$2,599.80	\$0.00	\$520.17	\$224.07	\$525.00	\$414.96	\$1,684.20	\$4,284.00

Alternative 1.1: Via rail to Baltimore, then via container liner to Felixstowe.

Alternative 1.2: Via rail to Mobile, then via container liner to Felixstowe.

Alternative 1.3: Via rail to Duluth, then via laker to Montreal, then via container line to Felixstowe.

Alternative 1.4: Via rail to St. Paul, then via barge to New Orleans, then via container liner to Felixstowe.

Alternative 2.1: Via rail to Baltimore, then via container liner to Rotterdam.

Alternative 2.2: Via rail to Mobile, then via container liner to Rotterdam.

Alternative 2.3: Via rail to Duluth, then via laker to Montreal, then via container line to Rotterdam.

Alternative 2.4: Via rail to St. Paul, then via barge to New Orleans, then via container liner to Rotterdam.

Alternative 3.1: Via rail to Seattle, then via container liner to Canton.

Alternative 3.2: Via truck to Lewiston, then via rail to Portland, then via container liner to Canton.

Alternative 3.3: Via rail to Lewiston, then via barge to Portland, and via container liner to Canton.

(For Table Explanatory notes refer to Appendix H)

Alternative 1.4 as compared to the existing delivered price of \$456.00 per metric ton. Delivered costs under Alternatives 1.3 and 1.4 are comparable to the delivered cost under Alternative 1.1.

Softwood Lumber: Montana to Netherlands The routes analyzed were from Butte, Montana to Rotterdam in the Netherlands. Segmented cost/rate comparisons between the existing lumber source and four route alternatives are presented in Tables 7.17 and 7.18. Alternatives 2.1 and 2.2 have already been described in Section 7.2. Under Alternative 2.3, softwood lumber progresses from Butte to Duluth via rail, is then loaded onto lakers and shipped via the Great Lakes and the St. Lawrence Seaway to Montreal, and then shipped from Montreal to Rotterdam via container liner. Under Alternative 2.4, lumber is shipped from Butte to St. Paul via rail, from St. Paul to New Orleans on barges via the Mississippi River, and then via container liner from New Orleans to Rotterdam. As shown in Table 7.17, Montana lumber can be delivered to Rotterdam at a cost of \$240.31 per metric ton under Alternative 2.3 and for \$270.58 per metric ton under Alternative 2.4 as compared to the existing delivered price of \$456.00 per metric ton. Delivered costs under Alternative 2.3 are slightly less than under Alternative 2.1.

Softwood Lumber: Montana to China The routes analyzed were from Butte, Montana to Canton in the Peoples Republic of China. Segmented delivered cost comparisons between the existing lumber source and three route alternatives are presented in Tables 7.17 and 7.18. Alternatives 3.1 and 3.2 have already been described in Section 7.2. Under Alternative 3.3, softwood lumber progresses from Butte to Lewiston, Idaho via rail, is then loaded onto barges where it progresses via the Snake and Columbia Rivers to Portland, Oregon. The cargo then travels from Portland to Canton via container liner. Delivered cost under Alternative 3.3, at \$204.00 per metric ton, is slightly

greater than under Alternative 3.1 but still significantly less than the existing delivered price of \$235.26 per metric ton.

7.32 Summary

The benefits of inland water transportation are somewhat mitigated by the lack of navigable water transportation systems in Montana. Consequently, Montana commodities which are transported via inland waterways still must be hauled via rail or motor carrier for a significant portion of their routes. This is particularly significant for westbound commodities, because the rail route to Lewiston, Idaho, the closest navigable port, is circuitous. Also, because the inland westbound routes are relatively shorter, and reduced inland water transportation rates are not able to fully compensate for the additional handling costs associated with changing transportation modes.

The advantages of inland water transportation are most apparent on the longer eastbound routes. Under existing costs and exchange rate conditions, inland water transportation via the Great Lakes is the only alternative which permits Montana coal to be shipped to West Germany and the Netherlands at a competitive cost. Likewise, inland transportation via the Great Lakes is the least expensive alternative for Montana softwood lumber going to the United Kingdom and the Netherlands. The benefits are even greater in the Spring when barge rates are depressed. On westbound routes, inland water transportation provides a lesser delivered cost than the existing source for coal to Korea, grain to Japan, Hong Kong and Taiwan, and lumber to China. However, the inland water alternatives, on a cost basis, are inferior to the through rail alternatives on all the Westbound target areas which were analyzed.

Inland water transportation would be clearly beneficial to Montana commodities moving to Europe or other eastbound mar-

kets. However, without easier access to Western inland ports, the benefits of inland water transportation are less for Western markets.

It should also be noted that rates for inland water transportation, particularly along the Mississippi River, are very depressed at present because of the extensive overcapacity plaguing the barge industry. Because of the boom in grain and coal exports anticipated in the late 1970's and early 1980's, inland water carriers undertook a heavy expansion program. When exports fell short of expectations, barge operators were forced to reduce prices to compete for the remaining market. Although some gradual increases in rates should be expected as barges are retired from service, no major increases in inland water transportation costs are anticipated in the near future.

PART 8. INNOVATIVE ALTERNATIVES FOR REDUCING TRANSPORTATION COSTS

8.1 Innovation Alternatives

The objective of this portion of the study was to research innovative transportation scenarios as a means of reducing transportation costs. Four alternatives were considered for reducing transportation costs because of their potential merits for addressing Montana's export shipping problems. Alternatives examined included: (1) exploiting backhaul routes; (2) double stacking containers; (3) consolidation (with developing an export trading company); and (4) using innovative methods of loading containers.

8.2 Innovation Alternatives and Cost Comparisons

The following presents scenarios which were developed to illustrate, in quantitative terms, the potential benefits of applying these alternatives to a Montana export commodity.

8.21 Feasibility for Exploiting Backhaul Routes

Currently, the U.S. trades are experiencing a heavy volume of empty outbound containers, particularly with the Pacific Rim nations. Montana commodities such as softwood lumber can provide a backhaul for these containers. In the past, it had been difficult to obtain liner rates which were low enough to move lumber; however, container rates have fallen sharply recently, and there is potential for additional reductions in container rates as a result of the trade imbalance.

According to the Maritime Administration's Containerized

Cargo Statistics for 1983, the latest year available, there were the equivalent of 141,200 empty 20 foot containers going from the U.S. Pacific Coast to Far East markets and the equivalent of 49,700 empty 20 foot containers going from the U.S. Atlantic Coast to European markets. In both instances, empty containers constituted more than 16 percent of the total outbound container traffic. With the trade imbalance increasing in 1984 and 1985, indications are that the backhaul problem for container liners has become more serious.

Although other Montana commodities can take advantage of low backhaul rates, forest products such as softwood lumber are the best positioned to take advantage. Grain and coal are generally unsuited for containerization, and the other analyzed commodities, because of their higher initial FOB costs, have delivered costs which are less sensitive to changes in transportation costs.

The forest products overseas transportation market has been served traditionally by the non-liner sector of the maritime industry. According to the Maritime Administration, the non-liner industry accounts for more than 80 percent of the total. However, container vessels have been used increasingly in recent years to carry forest products as backhaul cargoes, particularly to Pacific Rim countries. Rates have been competitive, partially because of the empty backhaul situation, and partially because "softwood lumber" was excluded from tariff filing under the 1916 Shipping Act. (Note that the Shipping Act of 1984 has been expanded to include the exemption from tariff filing of all "forest products").

The liner industry can afford to offer incentive rates for backhaul cargoes because they must pay to load the container aboard ship whether it is empty or full. An example of the benefit of backhaul routes to the transport of softwood lumber can be seen in the fall of container transport costs in the

North Atlantic. The rates for a forty foot container have fallen from \$4,700 per container to \$800 per container.

In order to estimate the minimum rates possible to obtain on a backhaul route, the Project Consultant performed a marginal cost analysis on one of the proposed alternative routes. The example chosen was softwood lumber to the United Kingdom via rail from Butte, Montana to Baltimore via rail and then from Baltimore to Felixstowe via container liner. This example was chosen because the United Kingdom has significant potential as a market for Montana lumber and because, as previously noted, lumber is an ideal backhaul commodity.

A marginal costing analysis essentially evaluates the additional costs that an intermodal carrier would incur in shipping a loaded container as opposed to shipping the empty container which the carrier must return in any case. Table 8.1 presents the results of this analysis. As shown, when full positioning costs are included, total transportation costs are \$3,290.73 per loaded container and \$1,276.24 per empty container. Therefore, it should be possible for an intermodal carrier to offer a rate as low as \$1,994.49 per container to transport the lumber from Butte to Felixstowe. It should be noted that the principle savings occur in the port handling and ocean voyage segments of the route. Therefore, in alternatives where port and ocean costs comprise a greater percentage of transportation costs, the relative savings would be greater.

As rates fall, more and more shippers of bulk commodities will ship via containers. Therefore, it is possible that all empty backhauled containers would be filled before the rates offered equaled marginal costs.

8.22 Potential for Double-Stacked Containers

Double-stack rail cars, initially developed and used by

TABLE 8.1

MARGINAL COST EVALUATION OF BACKHAUL TRANSPORTATION
 SOFTWOOD LUMBER TO U.K. VIA BALTIMORE
 (Per Forty Foot Container)

<u>Cost Category</u>	<u>Full Container</u>	<u>Empty Container</u>	<u>Cost Difference</u>
1. Positioning	\$ 600.00	\$ 600.00	\$ 0.00
2. Cartage	200.00	0.00	200.00
3. Rail	1,655.98	0.00	1,655.98
4. Port	249.90	145.00	104.90
5. Ocean Carrier			
Container System	336.14	302.53	33.61
Other	248.71	248.71	0.00
<hr/>			
Total	\$3,290.73	\$1,296.24	\$1,994.49
Per Metric Ton	\$ 156.70	\$ 61.73	\$ 94.97

Notes:

1. Includes positioning cost to Montana for full container and repositioning cost to Baltimore for empty container. Positioning cost based on information provided by Burlington Northern Railroad. In both cases, positioning costs can be reduced or eliminated through agreements with other shippers.
2. Cartage from Tables 7.17 and 7.18.
3. Rail costs from Tables 7.17 and 7.18.
4. Port rates based on SeaLand information for the Port of Baltimore. Rate is \$12 per long ton with \$145 per container minimum.
5. Voyage costs are the same with full and empty containers. Ten percent reduction in container system costs assumed to result from decreased overhead and depreciation.

Southern Pacific Railroad and SeaLand Service in 1981, are one of the latest innovations in intermodal transportation. While these cars vary in configuration, they are designed to reduce rail fuel consumption both by lowering tare weight and power requirements and in reducing high speed air resistance. These designs produce significant capital cost savings and reduce the number of trains that must be operated to handle a given load. All things considered, it has been demonstrated that the use of custom designed double-stacked container cars in dedicated services can reduce transportation costs by up to 40 percent - and even more in specialized situation. In the case of Southern Pacific, the use of double-stacked container cars on its Houston-Los Angeles main line has increased the ability of the railroad to handle additional traffic without running additional trains, a major concern to a railroad who would otherwise have to make a major investment in plant facilities to handle increased traffic.

The applicability of the double-stack concept is dependent on a number of factors. APL estimates that a minimum line-haul of 3,000 miles is required for their service from the West Coast to offer sufficient cost reductions. Because of the current trade imbalance, the availability of backhaul cargos is extremely important to achieving low unit costs and avoiding costly container repositioning. In addition to the large capital investment required to operate such a system, the operator must also incur higher marketing costs to compete for domestic cargos, and probably invest in high-priced computerized container routing and tracking systems such as those used by SeaLand and APL. Finally, double-stacked cars have very high clearance requirements, limiting the number of railway systems on which this system can be used.

In order for Montana to encourage rail carriers to develop double-stacking capabilities within state borders, it would have to develop significant exports in Europe and other east-

bound markets. Pacific ports are not sufficiently distant to generate enough savings via double-stack technology to encourage rail carriers to make the necessary capital investments.

Table 8.2 presents an analysis of the potential savings which could result from employing double-stack technology in shipping sunflower seeds from Great Falls to West Germany via Baltimore. This example was selected because it represented an eastbound market.

As shown, double-stacking would produce a savings of \$320.38 per container in transportation costs. This reduction would enable the Baltimore alternative to become the least expensive rather than the most expensive alternative for shipping oilseeds from Montana to West Germany.

Although savings of up to 40 percent are possible from double-stacked technology, the Project Consultant employed a more conservative 20 percent reduction in cost based on conversations with Conrail and data provided by Corporate Strategies, Inc. (CSI).

8.23 Potential for Developing Export Trading Company

The development of an export trading company in Montana could significantly enhance the state's trading potential. The company would serve several functions:

1. Negotiate long-term transportation contracts;
2. Serve as a broker between small shippers and foreign buyers;
3. Help explain U.S. export aid programs to small entrepreneurs; and
4. Assist small entrepreneurs in their dealings with international banks, brokers, forwarders, and carriers.

Export trading companies are made possible by the Export

TABLE 8.2

EVALUATION OF DOUBLE-STACKING BENEFITS
SUNFLOWER SEEDS TO WEST GERMANY VIA BALTIMORE
(Per Twenty Foot Container)

<u>Cost Category</u>	<u>Current Rates</u>	<u>Double-Stacked Rates</u>	<u>Difference</u>
1. Montana FOB Cost	\$2,640.00	\$2,640.00	\$ 0.00
2. Rail	1,601.92	1,281.54	320.38
3. Port	64.16	64.16	0.00
4. Ocean Carrier	603.68	603.68	0.00
<hr/>			
Total	\$4,909.76	\$4,589.38	\$320.38
Per Metric Ton	\$ 306.86	\$ 286.84	\$ 20.02

Notes:

1. Sourced from Table 7.12.
2. Current rate sourced from Table 7.12. Twenty percent reduction in double-stacked rates based on information obtained from Conrail and Corporate Strategies, Inc.
3. Sourced from Table 7.12.
4. Sourced from Table 7.12.

Trading Company Act (ETCA) of 1982. The Act permits several complementary businesses, including producers, shippers, and marketers, to become partners under an umbrella firm to facilitate the export of their products and services.

An export trading company can assist in reducing the transportation rates paid by Montana shippers in several ways. First, by combining shipments from several exporters, it can negotiate favorable contract rates with railroad companies which a small individual shipper would be unable to do. Secondly, by increasing exports and the corresponding market for transportation services, an export trading company could attract new rail competition to Montana, which is currently dominated by Burlington Northern. Finally, an export trading company could aid in the negotiation of long-term contracts with ocean carriers to help preserve the current low rates experienced on backhaul routes.

Table 8.3 presents an example of the potential reductions in transportation cost which could result from an effective export trading company. Wheat to Japan via the Port of Seattle was selected because of the significant potential traffic and because rail was the principal transportation component.

According to the State of Montana, contract rates can be negotiated which are 20 to 25 percent below the prevailing tariff. In addition, increased rail competition may also reduce rates by 20 percent. For example, the existing rate for a forty-foot container between Butte and Seattle (dominated by Burlington Northern) is \$510 or 76 cents per mile, while the prevailing rate between Chicago and Baltimore (a much more competitive route) is \$490 or 62 cents per mile, or 20 percent less. This is more significant when the additional costs associated with greater congestion and more urbanized terminal areas in the Chicago-Baltimore segment are considered. It was estimated that, by either negotiating contract rates or by

TABLE 8.3

EVALUATION OF BENEFITS OF EXPORT TRADING COMPANY
WHEAT TO JAPAN VIA SEATTLE
(Per Metric Ton)

<u>Cost Category</u>	<u>Current Rates</u>	<u>Estimated Rates With Export Trading Company</u>	<u>Difference</u>
1. Montana FOB Cost	\$135.18	\$135.18	\$0.00
2. Rail	33.73	26.98	6.75
3. Port	3.00	3.00	0.00
4. Ocean Carrier	7.75	7.75	0.00
Total	\$179.66	\$172.91	\$6.75

Notes:

1. Sourced from Table 7.16.
2. Current rate sourced from Table 7.16. Twenty percent reduction with Export Trading Company based on either improved negotiated position in establishing contract rates or increased rail competition estimated from information provided by the State of Montana, Burlington Northern and Corporate Strategies, Inc.
3. Sourced from Table 7.16.
4. Sourced from Table 7.16.

attracting railroad competition, export trading companies could reduce rail rates by 20 percent. Ocean carrier rates remain unchanged since they are already based on contract rates with tramp steamers.

As shown in Table 8.3, the use of an export trading company could trim transportation costs from \$44.48 to \$37.73 per metric ton, generating a delivered cost \$176.16 per metric ton for wheat going to Japan.

8.24 Innovative Methods of Loading Containers

A difficulty which needs to be overcome in the stimulation of backhaul cargo in the case of softwood lumber is that ocean carriers cannot afford to offer incentive rates if containers are damaged. Therefore, innovative methods of stuffing containers efficiently and without damage to the container can benefit both the shipper and the carrier.

Under existing practices containerized lumber is unitized in bundles which are 42 to 46 inches wide and 24 to 34 inches high. Two bands are required for the first ten feet of length with additional bands every additional four feet. Currently, packaged lumber is loaded into end loading containers by dropping one end of a double stacked package on the container sill and then pushing the package into the container with a forklift.

There are several innovative methods which can reduce damage and the cost of stuffing lumber into a container. One system (Joloda System) uses portable tracks which support hydraulic conveyors. These are used to move a unitized load from dock to container without damaging the container floor and without jockeying the load with a forklift. Another system uses small pipes to act as rollers in the container. The load is rested on the pipes and is pushed into the container. The

forklift then lifts the back of the load and the pipes are retrieved.

Source loading of lumber and other commodities would create very significant savings in transportation costs. At one east coast location, the stuffing cost of a 40 foot container in a house to house rate was \$250 at an inland station vs. \$450 at a port. The softwood lumber shipping alternatives cited in Part 7 assumed source loading of containers. If the containers were instead stuffed at the ocean terminals, transportation costs would be increased by an average of \$200 per forty-foot container or \$9.52 per metric ton.

8.25 Summary

From the examples cited in the previous section, it is apparent that the implementation of innovative methods in the shipping of Montana exports has the potential of reducing transportation costs. Some of the benefits may be transitory; for example, the advantages resulting from low backhaul rates may disappear if the balance of trade is restored. Others, such as double-stacking technology, may require too much investment. However, innovations such as source loading of containers and export trading companies have long-term potential and, in fact, are already being widely implemented in various parts of the United States.

This study examined only a few of the possible innovations which could help reduce the delivered cost of exports. Further research should be conducted to more fully ascertain the potential benefits of these and other innovations to Montana exports.

PART 9. CONCLUSIONS

Previous to developing an action plan it was necessary to summarize the findings found to exist while performing each task during the course of the study. These findings or factors were classified into two basic areas: (1) marketing factors; and (2) transportation factors. The purpose of this classification was to facilitate the development of a recommended plan of action for the export of Montana commodities and products.

9.1 Marketing Factors

Many factors have the potential to influence Montana's marketing of export products. This section describes study findings with respect to determining export commodities, producer/shipper perceived marketing problems, markets and needs, export market commodity and product prospects, and export market transportation cost evaluation.

9.11 Montana's Top Export Commodities

It appeared evident from the results of Task No. 1 and Task No. 2 that Montana's top export commodities are primarily resource related. The derived top fifteen export commodities and products are listed as follows:

- (1) Logs and lumber
- (2) Animal feed
- (3) Wood products
- (4) Meat and meat products
- (5) Chemicals and fertilizers
- (6) Fabricated metal products
- (7) Grain
- (8) Livestock

- (9) Fruits and vegetables
- (10) Ores
- (11) Copper
- (12) Hides and furs
- (13) Agricultural machinery
- (14) Wool
- (15) Coal

9.12 Producer-Shipper Determined Market Factors

The following summarizes responses and conclusions obtained during the Task No. 1 producer-shipper interviews:

- (1) For the most part, Montana products are price sensitive.
- (2) Many of Montana's smaller shippers are unaware of national and State foreign trade programs, have little background in export activities, and are not organized or staffed to initiate meaningful export programs.
- (3) Some of Montana's larger shippers have had exposure to export markets, but have a general lack of export knowledge. Also, the larger companies are often headquartered outside of Montana and are not sympathetic to Montana export objectives.
- (4) Often Montana exports are handled by middlemen or brokers who have direct contact with the market and draw from a number of potential suppliers. As a result, Montana shippers often do not have direct contact with the market and cannot respond directly to market requirements.
- (5) There is a need by many producers for financial assistance in order to export their product or products.

- (6) There is little or no international banking expertise in Montana which tends to be a significant obstacle to export development.
- (7) Many Montana products such as wool lack an in-state marketing organization.
- (8) The fairness of foreign import regulations in comparison to exports need to be evaluated.
- (9) The strength of the U.S. dollar has a negative effect on exporting.
- (10) Based upon the results of shipper interviews conducted in Montana, a need was found to further identify domestic markets.
- (11) Shipper interviews indicated two major export countries which were not part of this study and should be studied. They are Canada and Mexico.

9.13 Market Factors

Canada appears to be one of Montana's best export markets for commodities other than grain and lumber. Based upon a ranking system used during the study, other than Canada, the Pacific Rim and Europe provide the greatest export potential for Montana. According to the Montana Export Market Survey, countries importing Montana type products with a moderate to high export potential without considering transportation costs include:

Pacific Rim

Japan - wheat, talc, hides
animal feeds

Europe

United Kingdom - lumber,
beef

Pacific Rim (Continued)

Korea - wheat, wood products,
coal

China - timber, hides

Taiwan - wheat, barley, hides,
beef, wool

Singapore - beef, wheat, talc

Hong Kong - beef, potato products,
wheat, feed grains

Europe (Continued)

Netherlands - coal, lumber,
meat products

West Germany - meat
products, oilseeds

- (1) Montana and Montana products do not have a strong identity in overseas markets. Those efforts that have been initiated by the State are often overshadowed by states with greater resources.
- (2) The cost of Montana's products overseas is impacted by the U.S. dollar exchange rate. In the past, the strong dollar has priced U.S. products out of some markets. The predicted decline in the value of the U.S. dollar will improve the market for Montana products. In some cases, a relatively small increase in the value of a foreign currency against the dollar would make Montana products competitive. The study determined a 5.5 percent change in the relationship between the pound and the dollar would make Montana meat competitive in the United Kingdom.
- (3) There is a need to have representatives based in Southeast Asia and Europe to represent Montana's producers and products.
- (4) Most of the consulates and embassies overseas maintain libraries for interested parties, including business firms. Many of these libraries do not contain publications on Montana or its products.
- (5) The Montana Departments of Commerce and Agriculture should

subscribe to European and Asian trade publications which provide information relative to export product demand and price.

- (6) There is a need for the Montana Departments of Commerce and Agriculture to increase emphasis on Europe as an export market in addition to Canada and the Pacific Rim.

9.14 Export Market Commodity and Product Findings

Specific market commodity and product related findings determined from the Export Market Survey include the following:

Pacific Rim - General

- (1) There has been an interest and movement of U.S. malting barley and/or barley malt into Asia. This may, in the near future, become an export market for Montana malting barley.
- (2) There is a very high demand for industrial chemicals in Singapore, but Montana does not currently have producers of chemicals such as hydrochloric acid, polypropylene, phosphoric acid, potassium hydroxide, and acetone who are in a position to export these products.

Pacific Rim - Japan

Grain

- (1) The quality of white wheat from the U.S. is not comparable to Canadian or Australian wheat because of high level of dockage content which causes protein shortage and heat damage.
- (2) All Asian countries look to Japan as a leader in wheat purchases. Special effort should be made to ensure delivered grain meets purchase agreement specifications.
- (3) The importation of barley, rice and wheat is controlled by the Japanese Government. These commodities cannot be imported by private Japanese firms.

- (4) Some Montana malt may be entering Japan as an import. In beer making, malt is imported, not barley.

Talc

Montana has moderate potential for exporting high grade talc into Japan. Currently, it is more cost efficient for Japanese importers to bring in lower grades of talc from India and Australia for refining.

Hides

- (1) The potential for exporting cowhide and deerskin from Montana is very good. However, there needs to be a moderate sized beef processing plant in operation somewhere in the State, and a tannery could be established in-state for both cowhides and deerskins.
- (2) Tanned deerskin could be an excellent export product given the fact that a fresh hide is worth \$3.00 while a tanned hide sells for \$3.15/sq. ft. in Japan. Deerskins are now being purchased from New York and air-shipped to Japan. This market deserves additional analysis.

Animal Feed

Animal feed is a good potential market for Montana. Beet pulp, sun cured alfalfa pellets, and hay cubes are currently being exported to Japan from North Dakota, Oregon, and California.

Pacific Rim - Korea

Grain

Australia, Canada and Argentina, according to Korean grain buyers, have systems of calculating dockage content that favors the customer. In addition, these countries clean their wheat prior to shipping. As a result, Montana wheat is not competitive on a quality basis.

Wood Products

In Korea, 99 percent of all natural resources are imported. The U.S. is the second leading supplier of wood products behind Malaysia. Pine from the Northwest U.S. could open up in near future. Furniture industry is on

the upswing in Korea.

Animal Feed

Imports of livestock and animal feed products are restricted by the Korean government. Feed grains (corn, sorghum, rye, soybeans) are imported from China, Australia, and Poland. The potential for Montana produced animal feed in Korea is limited.

Pacific Rim - Taiwan

Hides

- (1) It is difficult to predict the demand for hides and skins from year to year as the market depends on fashion and price. There is a five-year cycle in the leather business.
- (2) Lamb, sheep, deer, and elk skins are purchased finished. A quality tannery in Montana for wild game skins could have a market. Shayne Industries in Taipei is a small company, but it imports two million square feet of skins per year from Korea alone.

Grain

- (1) Taiwan considers Montana wheat as high quality because of climate and soil. Taiwan especially likes 14½ percent spring wheat (DNS) from Montana.
- (2) Dockage content in U.S. wheat is too high. The dockage computation system in the U.S. should be changed.
- (3) U.S. now has a surplus of rice which cannot be exported because of present rice embargo efforts by the U.S. Rice Millers Association and Growers. This could effect the importation of U.S. wheat into Taiwan. Wheat blended with rice appears to be the coming trend.
- (4) Montana barley is facing stiff competition from Australia and Canada. Barley is imported as animal feed for poultry and hogs. Increased corn importation will adversely effect U.S. barley sales.

Meat Products

- (1) Taiwan is self-sufficient in pork and poultry.

- (2) Because of diet traditions (poultry and hogs), Taiwan does not appear to be a market for high quality Montana beef. Imported beef now tends to be primarily lower quality, grass fed from Australia.

Wool

Taiwan imports significant quantities of lambs wool, approximately 60 percent from Australia. Montana would have a moderate chance of exporting wool if two conditions existed:

- a. Development of an in-state wool collection point and warehouse. Currently, Montana wool is being stored in Belle Fourche, SD and Minneapolis, MN.
- b. Liberalization of import quotas for wool garments into U.S. would open raw wool exports to Taiwan.

Pacific Rim - China

General

The opening of the four special development zones and fourteen open coastal cities to foreign investment is going to cause China's trade to expand substantially in the next ten years.

Timber and Wood Products

There is a market in China for western style housing for western businessmen and diplomats which appears to have a promising immediate demand. This could be a market for prefabricated Montana log homes. Joint ventures with selected cities could be profitable because purchasing or leasing to foreign agents would pay in hard currencies.

Hides

There is a continuing demand for hides in China. Leather goods and shoes are major manufacturing activities in China.

Livestock

With some exceptions, the low demand for cattle breeding stock in China will continue in the foreseeable future.

Grain

Currently, the demand for Montana wheat is low in China because of their own increasing capability for wheat production. Changing dietary habits will emphasize wheat products over rice, so that the long term market may increase above their production capability.

Pacific Rim - Singapore

Wheat

There is a high demand for wheat. The U.S. is the primary source of wheat for flour millers in Singapore. A small amount of wheat is purchased from Australia due to its proximity, and from Canada, due to its quality. Recently the protein content of the wheat purchased from the U.S. has not met contract specifications and there has been some dissatisfaction with the amount of dockage and foreign material in the wheat that has been delivered.

Talc

Most of the talc processed in Singapore is purchased from the PRC (China Mineral) and South Korea. The U.S. at this point in time is not price competitive, but the talc buyers in Singapore are aware of the superior quality of the talc that is available in the U.S. All talc that is used in cosmetics must be sterilized which is difficult for the PRC to comply with. Talc is a moderate prospect for Montana. This market is expected to grow at about 2 percent per year.

Wood Products

Softwood appears to be a low prospect in the Singapore market. The U.S. is a primary supplier of hardwood to Singapore mills while Australia and New Zealand are the primary suppliers of softwoods. Australia and New Zealand have a definite freight cost advantage in supplying softwood, but there is very little difference in quality between U.S. and Australian softwood. Australian softwood is less expensive FOB Australia than U.S. lumber is FOB at

U.S. ports. Plywood in this region is at a current glut, because Indonesia is flooding the market. China has also just started exporting large quantities of wood products to Singapore.

Meat and Meat Products

Singapore appears to be a high prospect for choice beef. Several countries around Singapore depend on beef suppliers in Singapore to supply them with high quality restaurant cuts. Singapore imported 2.6 million pounds of U.S. beef in 1984. Demand is expected to raise moderately over the next ten years for beef. Singapore also imported 112,000 pounds of pork, but pork demand will not increase much over the next ten years.

Pacific Rim - Hong Kong

Meat and Meat Products

Choice beef has a good prospect in the Hong Kong market. Imports of U.S. beef are of better quality than meat imported from Brazil, China, Australia, New Zealand, and Argentina. Hotel restaurants are the largest purchasers of U.S. beef in Hong Kong. They are willing to pay the higher price for better quality beef. A large majority of the meat supplied to restaurants in China are handled through suppliers in Hong Kong. The beef market is expected to grow at about three percent per year while the U.S. market share of the Hong Kong pork market will be supplied more and more by the PRC.

Potato Products

Hong Kong in 1984 imported approximately 7.56 million pounds of frozen potato products from the U.S. The processed potato brokers purchase primarily a high quality premium frozen french fry, which is purchased CIF Hong Kong at approximately 36 cents per pounds. The trend for the consumption of potato products by Hong Kong residents is currently level to decreasing and is a moderate prospect.

Wheat

The U.S. has supplied approximately 80 percent of Hong Kong's wheat for the past 12 years (89 percent in 1984) and would be considered a high prospect. Canada is the only major competitor for this market. Wheat sold to the Hong Kong market is of three types: 15 percent protein Dark Northern Spring Wheat (\$189 MT FOB); 13 percent protein Hard Red Winter Wheat (\$204 MT FOB); and any protein Soft White Wheat (\$174 MT FOB). Hong Kong is currently supplied primarily by grain shipped from the PNW (Pacific North West) in the U.S. of which Montana is the principle supply source.

Animal Feed or Feed Grains

Hong Kong is not considered to be a significant importer of feed grains and is a moderate prospect. Alfalfa is the only product that feed manufacturers in Hong Kong are interested in purchasing. The U.S. and Canada are Hong Kong's two major suppliers of alfalfa. There are cheaper protein supplements to feed animals available from China and Thailand. For the most part, Southeast Asia, except for the Philippines, is not a significant importer of U.S. feed grains.

Europe - General

- (1) In the European Economic Community (EEC) unemployment runs between 10 and 15 percent. For this reason in most EEC countries there is no levy, tax or duty on imports such as raw timber or ores that the EEC can add value to form a product. The exception is beef or wheat which they can produce themselves.
- (2) The EEC countries' farm lobby is more effective for wheat and beef than any other commodity.

Europe - United Kingdom

Meat and Meat Products

There appears to be a moderate prospect for choice beef

and a high prospect for offal/variety meats. Currently, the U.K. and EEC restricts the import quota of U.S. beef (carcass or chilled beef) to 10,000 metric tons and charges a 20 percent import duty on the C.I.F. price. The U.S. is presently exporting to the U.K. only 600 metric tons leaving a market of 9,400 metric tons of beef. There is no import quota on offal/variety meats. All packing plants would have to be EEC inspection certified and be able to cut to European meat specifications.

Wood Products - Softwood Plywood

The European Community has a softwood plywood quota of 600,000 cubic meters of which the United Kingdom's share is 238,000 cubic meters. Unfinished softwood lumber exceeding 5 mm in thickness is duty free. The U.S. supplied about 100,000 cubic meters representing about 2 percent of the total market share. It was estimated that the prospect for softwood unfinished and plywood is moderate to high.

Europe - Netherlands

Coal

According to the American Consulate in the Netherlands, steam coal demands in the Netherlands will increase by 100 percent during the next 12 years. Imports of steam coal should go from 4.3 million tons in 1983 to 9 million tons in the year 2000. When the market revives there may be an opportunity to increase sales of U.S. steam coal with a sulphur content not to exceed 1.5 percent. It is estimated the coal market in the Netherlands represents a moderate to high prospect.

Wood Products, Lumber

There appears to be a moderate to high prospective market for rough softwood. There are no quota requirements for unfinished softwood. In 1984, 6,000 cubic meters of rough softwood came from Sweden, 750 cubic meters from Canada, and 750 cubic meters from the U.S. Rough lumber is sized

and finished either at the plant or at the destination. Due to lower housing demand, there is some decline in the demand for lumber. The supplier normally ships lumber C.I.F. Most rough lumber (70 percent) is sold as it comes in.

Meat and Meat Products

- (1) Because of the current economic situation in Europe, a large increase in beef imports is not foreseen. Dutch people normally prefer pork than beef. Most beef currently imported in the Netherlands is high quality beef used in hotels and restaurants. The U.S. is subject to a 10,000 metric ton quota in the EEC with a 20 percent duty on high quality beef. Because of the high duty and limited restaurant demand, the 10,000 metric ton quota has never been reached. In the current market, the U.S. is the largest supplier of offal/variety meats (livers, heart, tongue). The firm interviewed also imports horse meat for human consumption. Most of the horse meat goes to France with some to Holland. Variety meats/offals go to France and Belgium.
- (2) With respect to U.S. beef, the Europeans are not used to large amounts of animal fat. Holland importers are satisfied with U.S. beef quality except for the American practice of shipping 30 percent nonquality beef with quality beef. Because of the EEC requirement to reduce dairy herds, beef slaughter of culled dairy animals is high in the Netherlands; thereby, reducing demand for import beef. It is estimated there is a moderate prospect for choice beef and a high prospect for offal/variety meats.

9.15 Export Market - Transportation Cost Evaluation

Findings

Based on transportation cost information which does not include waterway options, six market areas show significant

potential for Montana exports. These are:

- Bituminous Coal - Korea
- Barley - Taiwan
- Softwood Lumber - United Kingdom
- Softwood Lumber - Netherlands
- Softwood Lumber - Peoples Republic of China
- Hides - Peoples Republic of China

Other market areas in which Montana has a moderate cost advantage are:

- Wheat - Japan
- Wheat - Hong Kong
- Prime and Choice Beef - Hong Kong
- Prime and Choice Beef - Singapore

9.2 Transportation Factors

The discussion of marketing export commodities and products normally go hand-in-hand with the consideration of transportation. Because recommendations will be separated between marketing and transportation in the action plan, transportation factors were isolated in this section. The transportation factors are subgrouped into producer-shipper determined and study determined transportation factors.

9.21 Producer/Shipper Determined Transportation Factors

- (1) Because of a geographic distance and transportation infrastructure disadvantage, Montana producers and shippers are in need of lower transportation rates and improved transportation service to better compete in their respective markets.
- (2) Montana does not have rail competition sufficient to compel the lowest practical rates. It was estimated that through container rates from Montana may carry at least a 20 percent penalty due to a lack of competition.

- (3) Because Montana export shipments are either small, sporadic, or from relatively inexperienced shippers, State products are often penalized with top-of-the-scale freight rates and/or equipment positioning costs.
- (4) There is evidence that some small shippers have been exploited by shipping service professionals. These experiences have discouraged further involvement in foreign trade.
- (5) Montana producers and shippers with experience exporting to Canada have concluded:
 - (a) A trucking barrier exists at the Canadian border for U.S. private motor carriers which restricts the movement of commodities.
 - (b) The lack of uniform truck regulations between the U.S. and Canada tends to act as a barrier.
 - (c) There is a lack of refrigerated trucking in Canada according to the Montana dairy industry.
 - (d) Business hours should be extended at the Sweetgrass-Coutts Canadian border customs station.
- (6) The rail piggyback rate to the East needs to be reduced in order to make Montana products more competitive.
- (7) The Ports of Seattle and Portland do not have the facilities to handle Montana products such as sulphur in bulk form.

9.22 Study Determined Transportation Factors

- (1) The benefits of inland water transportation are somewhat mitigated by the lack of navigable water transportation systems in Montana. Consequently, Montana commodities which are transported via inland waterway still must be hauled via rail or motor carrier for a significant portion

of their routes.

- (2) Since inland westbound routes are relatively short, the reduced inland water transportation rates are not able to fully compensate for additional handling costs associated with transshipment between modes.
- (3) The advantages of inland water transportation are most apparent on longer eastbound routes.
- (4) Under existing costs and exchange rate conditions, inland water transportation via the Great Lakes is the only alternative which permits Montana coal to be shipped to West Germany and the Netherlands at a competitive cost. This is also true for Montana softwood lumber being shipped to the United Kingdom and the Netherlands.
- (5) On westbound routes, inland water transportation segments assisted in providing a lesser delivered cost than the existing sources for coal to Korea, grain to Japan, Hong Kong and Taiwan, and lumber to China. However, the inland water alternatives, on a cost basis, are more expensive at this time than rail alternatives on all the westbound target areas which were analyzed.
- (6) Rates for inland water transportation, particularly along the Mississippi River, are very depressed at present because of extensive overcapacity plaguing the barge industry. Although some gradual increases in rates should be expected as barges are retired from service, no major increases in inland water transportation costs are anticipated in the near future.
- (7) Montana's prospects for attracting new industry which would in turn stimulate private investment in transportation infrastructure and attract innovative and cost

effective new services are not bright in the foreseeable future. During a period of unprecedented reverse investment and mass industrial relocation in the U.S., Montana is being bypassed in part due to a perceived antibusiness climate that includes concerns over unitary tax, environmental issues, and trade unionism.

- (8) Although Montana shippers have traditionally been oriented toward the use of West Coast ports, they must become more flexible and be prepared to use East, South, Gulf, and Great Lakes ports as necessary.
- (9) There is a need for a public or private agency in Montana to provide local shippers with intermodal shipping cost estimates.
- (10) The Staggers Act and Shipping Act of 1984 both allow for contract rates. As a result, many larger preferred shippers are now enjoying low contract rates for both rail and ocean carriage. These lower rates are not available to many Montana shippers because of their low volumes and/or limited experience in export shipping.
- (11) There is a need for freight consolidators in Montana that can accumulate enough cargoes to negotiate volume rates.
- (12) Montana does not attract large numbers of transportation facilitators and innovators such as freight forwarders, and nonvessel operating common carriers (NVOCC) because of its small population and small industrial shipper base. As a result, there is a limited pool of transportation and foreign trade professionals that can provide services to Montana shippers.
- (13) Because of the current imbalance in trade with the U.S., there is more transportation capacity being used inbound

to the U.S. than outbound to trading partners. This is particularly true in trades where high-value consumer goods and industrial components are being shipped into the U.S. in containers. These empty containers must be returned to Pacific Rim and European countries. As a result, there are opportunities to negotiate low rates for cargoes that can be carried in these returning containers.

- (14) Forest products from Washington and Oregon (log, lumber and plywood) have enjoyed reduced freight rates to the Pacific Rim by using empty returning containers. Unfortunately, some carriers are now restricting the carriage of forest products because of damage incurred during loading and unloading. There is equipment currently available that can eliminate this damage. This equipment is available through Joloda Loading Systems Limited Unit, 12 Garston Industrial Estate, Blackburns Street, Liverpool L198JA, England.
- (15) The double-stacking technology, which has allowed reductions in rail rates of up to 40 percent on through international movements, is probably not available to Montana shippers. The volumes of industrial and consumer goods with origins and destinations in Montana is too small to justify the investment in double-stacked cars. Also, it is unlikely that the Burlington Northern and/or lessor/owner ocean carriers would find it cost-effective to sidetrack unit trains of empty westbound containers on double-stacked cars to accommodate Montana shippers, at least while double-stacked units remain in short supply.
- (16) Inland waterway services are available for Montana shippers using West Coast ports by transshipping to the Columbia-Snake River System at Lewiston, Idaho. Existing costs on this system are extremely close to the costs of using through rail service for the cargoes examined in

this study. This suggests that the Columbia/Snake River System is exerting competitive pressure on rail rates and keeping them lower than they might otherwise be in the absence of barge service. It is important, therefore, that Montana shippers continue to use the Columbia/Snake River System and encourage any investment which would improve the efficiency of the System.

- (17) Montana shippers have tended to overlook the potential for using inland waterways serving the Great Lakes and Gulf ports. The study shows that for certain products, such as lumber and coal to Europe, the Great Lakes provides the lowest cost routing. This suggests the need for closer cooperation with Great Lakes ports and more emphasis on European buyers.
- (18) As with the subsidation of rail shipping costs in Canada, consideration should be given to the possibility of transportation subsidies in Montana to better compete with Canadian exports.

PART 10. ACTION PLAN

The purpose of the Action Plan is to translate the findings of the study presented in Part 9 into implementation strategies aimed at stimulating Montana exports. The Action Plan consists of two elements: (1) marketing; and (2) transportation. The marketing action plan specifies actions that should be taken by Montana government and industry to assist in the marketing of commodities and products overseas. The objectives of this proposed plan are to obtain a substantial increase in export sales growth and diversification of Montana's economic base, and new employment opportunities for Montana residents. The transportation action plan addresses those steps that would have to be taken in order to realize the efficiencies necessary to ensure that Montana products can be delivered to foreign markets at a competitive price.

The recommended actions presented were formulated through a comprehensive analysis of research findings and are offered without a complete analysis of political or financial feasibility.

10.1 Marketing Action Plan

One of the major problems the Montana Department of Agriculture has had in developing new foreign markets is convincing Montana companies that marketing is no longer the United States market versus international markets, but rather that the United States is just one of the markets available. In many cases, new market opportunities, both foreign and domestic, must be sought if profit margins are to be maintained. Larger companies in Montana (i.e., lumber mills, and talc mining) with only domestic markets have found it

increasingly difficult to sustain customary rates of growth, and many are seeking foreign markets to absorb an accumulating surplus of productive capacity. Companies with foreign operations have benefitted from previously neglected overseas markets.

The major problems or unknowns that are keeping most small to medium sized companies out of foreign markets are the uncontrollable elements of the business environment found in foreign countries. These problems include structure of distribution; competitive, economic, political, and cultural forces; levels of technology; geography; and infrastructure.

10.11 Producer/Shipper Needs and Opportunities

The Agricultural Development Division of the Montana Department of Agriculture and Business Assistance Division of the Montana Department of Commerce currently are able to provide limited assistance in the following items (1) through (5) due to limited resources.

(1) Protective Restrictions

Protective restrictions in foreign markets should be identified in order to allow Montana firms to expand into these protected markets. This is especially true for agricultural related markets which normally face higher levels of protectionism. Protective restraints that must be identified before many Montana companies can begin to formulate plans to export include: import surcharges; quotas; trade-limiting pacts; tariffs; boycotts; monetary barriers; standards such as health, safety, and product quality; import licensing requirements; proportion restriction of foreign to domestic goods; minimum imports price limits; embargoes; valuation systems; antidumping practices; tariff classifications; documentation requirements; fees; standard disparities; intergovernmental acceptance of testing methods and standards; packaging, labeling, and marking

standards; government policies; export subsidies; countervailing duties; domestic assistance program; prior import deposit requirements; administrative fees; special supplementary duties; import credit discriminations; variable levies; border taxes; voluntary export restraints; orderly marketing agreements; and other nontariff barriers and market barriers. This suggests that entry into foreign markets is complicated making it necessary for firms trying to enter the market to obtain assistance from a governmental entity.

(2) Marketing Plan

Whether a Montana company is ethnocentric, polycentric, regiocentric, or geocentric, the firm will need to redevelop its marketing strategy on an ongoing basis. Most Montana companies need assistance in their marketing strategy because no one individual has sufficient marketing background in the company, or has an established marketing budget. The design and implementation of the marketing strategy consists of the following phases: Phase 1 - preliminary analysis and screening (matching company/country needs), Phase 2 - adopting the marketing mix (consortium of products) for specific target markets, Phase 3 - developing the marketing plan, and Phase 4 - implementing the marketing plan.

(3) Product Standardization

One question often asked by many Montana companies concerning marketing is whether to go with a standardized product to be marketed abroad or with differentiated products adapted and even redesigned for each culturally unique market. This question takes international marketing expertise that few Montana-based companies possess. The issue cannot be resolved with a simple either/or decision. Cost-revenue and cost-benefit analyses need to be done and decisions made in the hard, cold light of profitability. The issue of standardized worldwide product and marketing programs versus programs tailored to accommodate unique cultural differences can be

resolved with a sound marketing analysis and a profitability study of both approaches.

(4) Distribution Network

The ultimate goal of the marketer is to insure that target markets receive products in a manner that leads to customer satisfaction. This can be a considerably difficult task when a Montana company does not identify all of the different types of distribution channels available. The following distribution channels represent the majority of the types a Montana company has to consider: export management companies, manufacturer's export agents, brokers, buying offices, selling groups, inter-merchants, Norazi agents, export merchants, export jobbers, export buyers, foreign importers, export trading companies, agents, factors, manufacturer's representatives, managing agents, distributors, dealers, import jobbers, wholesalers and retailers.

Selecting a distribution channel can be an extremely difficult task. The following are just some of the elements to consider when selecting a distribution channel: (1) questions of control, size of margins, length of channels, terms of sale and channel ownership need to be decided; (2) the company must establish basic policies explicitly detailing the money and personnel commitment it is willing to make in developing international distribution and keeping profit goals in a foremost position; (3) general guidelines, specific marketing goals, market share, and margin requirements have to be established; (4) because of the difficulty of laying down precise operating policies, the Montana marketer may find it necessary to defer company objectives regarding return on investment, sales volume, long-run potential, and other general guidelines and must acknowledge that lesser problems should be solved on the strategic level; (5) policy must further delineate the relationship between long- and short-term goals and should specify the company's level of involvement in the distribution

system and the extent of its ownership of the product through the distribution channels. The State of Montana should consider technical assistance grants for the hiring of consultants to aid in the distribution channel selection process.

(5) Other Factors

Other factors that need to be examined by Montana companies concerning exporting are: costs, margins, channel length, distribution intensity, stocking and servicing markets, currency exchange permits, letters of credit, bills of exchange, commercial risk, political risk, foreign exchange risk, and retail price control. One area causing considerable confusion to most State exporters, in which assistance is often requested, is what export documents are required. Examples of export documentation include: declarations, consular invoices or certificate of origins, bills of lading, commercial invoices, insurance policies or certificates, and licenses.

(6) Countertrading

Countertrading is a term used to describe transactions where a partial payment is made in kind rather than in cash. It is of growing importance to sales in Eastern European countries, Russia, People's Republic of China, and many less-developed countries. Countertrading results from shortages of hard currencies available to unindustrialized nations. For communist countries, purchases from noncommunist suppliers must be made with monies earned from Western nations; and the less-developed countries' inflation-ridden or weak currencies are reserved for top priority purchases while goods of less importance, as well as top priority needs, are being purchased through some form of countertrading.

U.S. and Montana firms have been slow to accept countertrading, preferring to lose a sale rather than become involved in an unfamiliar situation. As the trend has indicated, foreign demand for countertrading will probably increase and

many firms will find they have little choice but to cope with the problems of countertrading.

Countertrading includes four distinct types of transactions: barter, compensation deals, counter purchase, and buy-back. Montanans have virtually no experience in countertrading. Assuming no export trading companies exist or are doing business in Montana, the State of Montana might consider providing assistance relative to countertrades. Actual involvement in the transaction would be left with the private sector.

(7) Strength of the Dollar

Probably the greatest problem affecting Montana exports today is one that is nearly uncontrollable. That problem is the strong dollar. The strength of the dollar has decreased the competitiveness of all American products abroad. Some products are more affected than others. As stated in Part 9, Montana products are generally price sensitive. So the strong dollar has especially hurt the competitiveness of those products that are particularly sensitive to price changes. A good example is wheat exports to Mexico. The current exchange rate for dollars to pesos is around one (dollar):450 (pesos) compared with approximately 1:200 only 18 months ago. This amounts to a 125 percent increase in the value of the dollar which more than doubles the price of American wheat to Mexico. As a result, Mexico will buy wheat from a country that is not as efficient at producing wheat and is probably further from its borders than is the United States because the ultimate price to Mexico is less. This is not an isolated example, this situation occurs in all product areas. There is relief in sight, however. In recent months, the value of the dollar has declined but still needs to go lower. For this particular problem, the recommended plan of action would be to lobby U.S. Senators and Representatives for a realignment of fiscal policy with the ultimate goal of reducing the value of the U.S dollar

in an orderly manner being careful not to reduce its value too quickly.

(8) Joint Venture

One opportunity not many Montana firms have looked at which has a good potential of expanding their markets is joint venture. There are many reasons a joint venture would be attractive to an international marketer. A joint venture would be attractive in the following situations: (1) when it may enable a company to utilize the specialized skills of the international partner; (2) when it allows the marketer to gain access to a partner's local distribution system; (3) when a Montana company seeks to enter a market where wholly-owned activities are prohibited; and (4) when the firm lacks the capital or personnel capabilities to expand its international activities otherwise.

Most Montana companies look at joint ventures for the fourth reason stated. When a Montana company cannot initiate enough interest to lure a foreign firm into a joint venture for their capital and marketing expertise, they turn to State government for both resources. The Montana unitary taxing system is perceived as a real barrier to attracting joint ventures.

There is also a need in Montana to expand the market development of limited renewable resources such as agricultural products - wheat, barley, safflower, mustard, sunflower seeds, timber, cattle, beef, and sheep - and natural resources such as coal. These are relatively abundant resources that are available in Montana, but lacking in countries such as China, the Philippines, Japan, Singapore, Korea, Taiwan, West Germany, and the Netherlands. These countries are poor in resources, but rich in the human labor used to convert these resources into a finished product.

10.12 Major Recommendations Concerning the State of Montana

- (1) To help alleviate price sensitivity the State of Montana should encourage the formation of export trade facilities to represent Montana interests in international marketing and to consolidate cargoes and negotiate service contracts with domestic and international carriers.

Many of the disadvantages that Montana suffers in marketing and moving international cargoes can be addressed through an export management company or export trading company. An export management company would not take title of the products to be exported but would receive a commission at the time of sale. The export trading company on the other hand could take title to export goods early in the export process freeing the company producing the product to concentrate on functions other than exporting. Successful export trading companies normally tend toward handling and developing marketing expertise in a small number of large volume products such as grain, ores or coal.

In a large number of cases, the long distance to freight consolidation points is a major factor in pricing Montana products out of export markets. The primary advantages of an export management company or export trading company aside from export marketing are related to transportation. These advantages are: (1) consolidating cargoes for export; and (2) negotiating favorable volume freight rates and service. Both types of facilities would be utilizing their marketing and transportation expertise and economies of scale to facilitate the export process. Another factor considered to be an advantage in the formation of either facility would be the availability of expertise in such areas as international banking and international law which is vitally needed in Montana. Discussions should be held with the Montana International Trade

Commission and/or other export related organizations to determine how the State could assist in supporting proposed trading facilities financially and legislatively. Assistance in financing could be accomplished possibly through low interest loans or grants during the first few start-up years.

- (2) The State of Montana should take action to improve the image of the State as a site for new business development, particularly for reverse investment.

Efficient transportation and transport economies-of-scale are dependent on concentrated volumes of cargoes. An improved business environment, including the removal of the unitary taxing system, would encourage new investment, which in turn will generate new cargoes. Reverse investment (investment in the U.S. by a foreign country) establishes international ties and stimulates foreign trade.

- (3) The State should encourage foreign-trade zone development in key locations.

Foreign-trade zones are an economic development tool which can attract manufacturing and storage operations involving imports. These zones tend to serve as a magnet for reverse investment. For instance, most of the major reverse investment in Tennessee has been located in foreign-trade zones. In addition, foreign-trade zones tend to attract transportation and foreign trade services. A zone has already been established in Great Falls.

- (4) The State should concentrate on the expansion of companies producing value-added products in Montana.

Studies have indicated that there is a great potential for the sale of value-added food products from the United States to foreign countries. Value-added food products such as beef

jerky, processed cherries, jams, jellies, preserves, flour, canned buffalo, candy, mustard, barbecue sauce, bee pollen products, sauces, hot wheat cereal, beer, beef, beef products, and flowers are examples of value-added products produced in Montana. Currently, the United States Department of Agriculture (USDA) is placing great emphasis on marketing U.S.-produced value-added products abroad. The Montana Department of Agriculture is currently working with the USDA to assist Montana companies in marketing value-added products in such countries as Japan, Korea, Taiwan, Philippines, Singapore, Hong Kong, and Australia.

(5) Expand or reorganize existing State of Montana trade assistance and promotion units.

The majority of Montana firms are too small to support sophisticated marketing divisions and have limited knowledge of export trading. Daily contact is made by the Montana Department of Agriculture, Agricultural Development Division and Montana Department of Commerce, Business Assistance Division with companies that could successfully enter foreign markets if given proper assistance and guidance. However, current State assistance is limited due in large part to resources available.

One possible short range alternative would be to expand the staffs of the Montana Department of Agriculture, Agricultural Development Division and Montana Department of Commerce, Business Assistance Division by two full-time international trade specialists each. In conjunction with this alternative, the Montana Department of Commerce, Transportation Division should develop the capability of providing shipping cost information to Montana firms interested in exporting Montana products.

A mid range alternative would be to develop a greater degree of coordination and better utilization of staff re-

sources among current multiple state departmental agencies involved in trade promotion and assistance. Current State agencies performing activities associated with export trade include the Montana Department of Agriculture's Agricultural Development Division and Wheat Research and Marketing Unit; the Montana Department of Livestock; the Montana Department of Commerce's Business Assistance Division, Promotion Division, and Montana Economic Development Board; and the Montana Department of State Lands' Administration Division.

A long range alternative might involve the establishment of a State International Trade Office which would be responsible for product promotion, international business recruitment, foreign investment counseling, export education, transportation coordination, document preparation assistance, and trade/investment mission preparations. An ideal staffing pattern for this International Trade Office might include:

- Administrator (1)
- Agricultural Marketing Officers (2)
- Natural Resources Marketing Officer (1)
- Transportation Officer (1)
- Export Assistance Officers (2)
- Reverse Investment Officer (1)
- Loan Officer (1)
- Administrative Assistant (1)

- (6) Establish Montana trade offices in western Canada, the Pacific Rim and Europe.

Each trade office would be responsible for gathering trade and investment leads, promoting tourism and developing ongoing relations with trading companies, financial institutions, freight forwarders, and transportation firms. The offshore export trading offices could be staffed by either employees of the state or by nonstate personnel who work as agents to

specifically represent and assist Montana exporters. Two locations are recommended for the Pacific Rim which are Tokyo and Hong Kong. A Montana trade office presence in these areas would enhance the directional marketing guidance and quality of communication between Montana producers, the newly formed export trade facilities and overseas trade businessmen.

(7) Investigate the impact of Montana's unitary tax.

The Montana Department of Revenue's unitary method of calculating corporation taxes is viewed as a major impediment to reverse investment and should be modified or concisely redefined to alleviate concerns of foreign investors.

(8) Distinguish Montana Grain.

Distinguish Montana grain as a premium commodity and assure the cleanliness of delivered shipment. Consider consolidating Montana grain with highly regarded clean western Canadian grain.

(9) Conduct prospecting visits to western Canadian cities.

The State should conduct prospecting visits to western Canadian cities to induce reverse investment and subsidiary locations. Target small manufacturers who could benefit by two-way tariff reductions or eliminations. Actively promote the advantages of Foreign Trade Zone #88 in Great Falls and the Port of Montana in Butte.

(10) Actively promote the development and operation of a moderate sized beef processing plant, hide tanning facility, and warehouse/distribution center for Montana wool.

Due to recent closures of livestock processing facilities

in the State, there is a need to establish a moderate-sized beef processing plant in Montana in order to take advantage of available export opportunities. Likewise, the State currently does not contain a commercial hide tanning facility. There is a need to actively promote the development and operation of a tanning facility in order for Montana to acquire a share of the potential export market for finished cowhides and deerskins in the Pacific Rim. In addition, development of an in-state wool collection point and warehouse is needed in order to distinguish Montana wool for overseas markets.

(11) Develop a mechanism for export loans.

Through the Montana Economic Development Board develop a mechanism for loaning short-term working capital to established exporters with confirmed export orders and irrevocable letters of credit.

(12) The State should conduct overseas trade missions twice a year.

These missions should be designated to bring Montana shippers and businesses into direct contact with overseas buyers so that direct relationships can be established. If necessary, the State should consider paying expenses for small business participants. These missions should be led by the Governor but consist mainly of actual and potential foreign shippers.

(13) Increase emphasis on the European market.

The Montana Departments of Commerce and Agriculture should increase emphasis on the European export market in addition to Canada and the Pacific Rim. To assist in this endeavor, subscriptions should be obtained for European and Asian trade publications.

(14) Provide embassies with Montana publications.

The State of Montana should make a concentrated effort to see that libraries at overseas U.S. Embassies and Consulates in those countries with good export potential are stocked with current copies of the Montana Agricultural Buyer's Directory, Montana Manufacturer's and Products Directory, Montana travel promotion brochures and specific product literature of interested state firms. Miscellaneous publications about Montana, such as geographical and historical books should also be provided. This would provide Montana products with an inexpensive form of exposure and possibly create leads to certain markets.

10.13 Marketing Action Items

10.131 Marketing Strategies

(1) Japan

The Japanese market should be viewed as a long-term rather than a quick-hit market. The entire Japanese culture moves relatively slowly. Business ventures and relationships must be slowly and painstakingly hammered into place. In addition, many Japanese industries are laced with cumbersome structures and special privileges for entrenched interests that can frustrate an ambitious marketing plan.

Those companies that have been most successful in Japan have learned to take Japan on its own terms. They have taken the time to study the market, to be introduced to not only its key commercial players, but also to senior government officials who enjoy considerable reputational and "spiritual" sway in the Japanese business community, to learn the ways of the market, and to develop long-term relationships that intertwine with the nation's own long-term psychology and definition of its well-

being.

Educational Orientation - The educational process is a two-way street. Clearly the Montana interests need to absorb as much as possible about the Japanese markets and Japan's often unique ways of doing business. Beyond that, the Montana interests should begin educating Japan concerning the desires and capabilities of Montana companies.

Initiation of this two-way street could continue with a trip by Montana company representatives in the form of a trade mission to Japan with a return trip by Japanese counterparts following as soon thereafter as feasible.

Further dialogue and printed information exchanged between Montana exporters and relevant Japanese companies, distributor companies, and trading companies would be useful for both sides.

Japanese Trading Companies - Careful attention to Japanese Trading Companies is warranted because it is sometimes the only means of entry into some of the Japanese markets. Accordingly, extensive time should be spent learning how to cultivate the contacts with a variety of trading companies serving potential areas of the Japanese market that Montana companies could serve.

Supermarkets and Department Stores - Again, meaningful inroads will take considerable time, but to learn the way of the land from helpful personal sources, a delegation could contact executives and managers in department stores such as The Seibu Department Stores, Ltd. and the Meija-ya Trading Company and Grocery Store Chain. These companies have already been contacted by Director Keith Kelly of the Montana Department of Agriculture concerning the sale of Montana beef in their stores. One of the ideas to use in approaching these

companies is to propose a Montana specialty section in one or more of their existing stores on a trial basis. A promotion of this type would provide excellent, widespread publicity for the Montana name among a broad cross section of Japanese shoppers.

Permanent Marketing Presence - To make meaningful headway in Tokyo, much more than an occasional visit is necessary. Montana industry representatives would be well advised to establish a presence in Tokyo. The possibility of establishing an offshore export trading office should be given serious consideration by the State of Montana. The office would be staffed either by employees of the State or by nonstate personnel who work as agents to specifically represent and assist Montana exporters. This assistance would be available through the entire process of exporting and marketing Montana agricultural and nonagricultural products. Other states and industries have already taken the Tokyo step, and it appears to be simply a matter of Montana interests deciding how much lead time it is willing to give up to these competitors.

In order to keep the overhead of such an operation to a minimum and yet provide the valuable network of support that such an office needs in Japan, the State could seek to establish an office under the wing of a person or company either active in or familiar with both Montana products and potential markets in Japan. Supervision by such a person could provide a useful American-Japanese combination of skills and personalities. The Japan operation could thus be streamlined, yet be backed up by knowledgeable, well-connected Japanese businessmen who could be of invaluable assistance. Another staffing option would be for Montana to send one of its own experienced marketers to Japan to participate in the marketing operation. The Montana person's presence would surely enhance the directional guidance and quality of communication from the participant Montana companies, as well as developing a better understanding of the difficulties of getting started in the Japanese market.

This office would provide Montana shippers with a direct link to the markets of Japan as well as a better understanding of the consumer trends that exist there and in other Pacific Rim countries. The office would enable Montana producers to better read the markets of Japan, providing a framework for a marketing effort from a product standpoint. Montana would also be putting itself in a better position to compete in an international economy with the products of other states that have previously established such entities overseas.

Some of the specific activities to be undertaken by the offshore export trade office are listed as follows:

- (a) Identify potential target markets for Montana agricultural and nonagricultural products.
- (b) Determine price competitiveness of products to be exported taking into account transportation, insurance, financing, and any other factors that affect the overall cost of the item.
- (c) Develop markets for Montana products.
- (d) Determine the extent of promotion needed for specific products, possibly developing foreign language promotional literature and and packaging.
- (e) Establish an overall positive identity for Montana-grown and Montana-made products similar to that which has been created domestically. Several states have successfully established an identity for certain product groups in Japan. An example is the effort undertaken by the California Board of Avocado Growers in promoting California-grown avocados specifically.
- (f) Participate in foreign trade shows to promote Montana products to wholesale buyers in Pacific Rim countries.

Value-added food products would especially benefit from this type of promotion.

(g) Assist in penetrating the complex multi-layered distribution systems for agricultural products that exist in the Pacific Rim countries, especially in Japan.

(h) Monitor and lobby for the easing of foreign import barriers.

(i) Disseminate export information relating to laws, health requirements, import duties, tariffs, and nontariff barriers that affect the importation of specific products to Japan and nearby countries.

(j) Provide assistance to the Montana shipper with regard to international banking, thereby eliminating a major obstacle to export development that currently exists.

Montana must establish a permanent, on-site presence that will better enable the State to monitor market developments and provide service to the predominantly small Montana exporter. Without such commitment, Montana cannot possibly compete with European, Japanese, and other U.S. competitors in Japan and the Pacific Rim.

(2) Other Pacific Rim Countries

The market for U.S. products in each of the eight Pacific Rim countries of Hong Kong, Singapore, Taiwan, Korea, Thailand, Philippines, Malaysia and Indonesia is not large by American domestic market standards, but in combination they offer a significant export opportunity.

Asia has been a profitable market for those firms that have managed to effect good market penetration. Moreover, Asia

is certainly a market of growing size and affluence. Consumption patterns appear to indicate this will lead to greater consumption of high-quality foodstuffs and Westernized products often imported, and could foster a trend to consume more value-added products, perhaps increasingly of U.S. origin, taste, and style.

Overall, several of the countries have internal restrictions making exporting to them difficult. However, in the major country markets in the region, the agriculturally related market is quite free in terms of government involvement.

A key recommendation, therefore, is that the Montana companies consider establishing effective marketing representation for the Asian market. This representative could possibly be combined with the representative mentioned for Japan in the previous section.

The logical base point for this Asian representation office would be Hong Kong. It is both a large and open market in itself, and a regional business center from which all the other analyzed countries can be reached by air within two and one-half hours, thus facilitating the regular contact within each country that is a target market.

Under this plan, the Asian representative would represent the Montana companies in a visible way in Asia, would engage in market development through meeting with prospective customers throughout the region, would open accounts and take orders until those functions could be placed in the hands of a local agent who could cut red tape and maneuver through the business/government structure, would supervise and backstop the agents in each community, and would serve as a regional service representative and trouble shooter to handle problems as soon as they develop.

10.132 Product Marketing Actions

Aside from the State's role, this section recommends actions required by Montana producers to take advantage of identified export opportunities.

(1) Pacific Rim

Agricultural

- | | | |
|--|---|---|
| Japan,
Taiwan,
China | - | There is a need for a moderate sized beef processing plant in operation somewhere in the State -- a tannery could be established for both cattle and game hides. The potential for <u>hides</u> is very good. |
| Taiwan | - | Development of an in-state <u>wool</u> collection point and warehouse. |
| | - | Liberalize import quotas for wool garments into U.S. This will open raw wool exports to Taiwan. |
| Japan,
Korea,
Taiwan,
Singapore | - | The quality of <u>wheat</u> must be improved by removing the high level of dockage content which causes protein shortage. |
| Japan | - | <u>Animal feed</u> such as alfalfa pellets and hay cubes would be a good potential market. |
| Taiwan | - | <u>Wheat</u> blended with <u>rice</u> is a commodity which will have a good market in Taiwan and this process should be investigated as a potential industry in Montana. |
| Singapore,
Hong Kong | - | High quality Montana <u>beef</u> has a definite market in Singapore and Hong Kong since |

those countries serve as a distributor for surrounding countries. Aggressive marketing could result in high sales.

Hong Kong - The U.S. has supplied approximately 80 percent of Hong Kong's wheat for the past 12 years and would be considered a high prospect.

Natural Resources

Korea - The furniture industry is on the upswing in Korea and is open to an increased marketing of pine from Montana.

China - Western style housing has a prominent, immediate demand which could be served by an aggressive Montana lumber supplier.

Singapore - Talc buyers are aware of the high quality talc in the U.S. and would actively pursue our sources, if it were price competitive with Korea and PRC.

(2) Europe

Europe - Since there is no levy, tax or duty on imports or raw timber or ores which the EEC can add value to, these products should have a high potential with the appropriate marketing efforts.

United Kingdom - Unfinished softwood and plywood have good potential markets and should be pursued aggressively.

Netherlands - Montana coal, with its low sulphur content,

has a potential Dutch market as that country's imports continue to increase significantly until the year 2000.

10.2 Transportation Action Plan

The transportation recommendations provide actions that should be considered to facilitate the marketing of Montana export products. These recommendations respond to producer-shipper indicated needs as well as study determined needs. The recommendations are segregated into four classifications which include land transportation, water transportation, freight handling and other. Land transportation includes recommendations for truck and rail; water transportation includes barge-inland waterways, ports and ocean carriers; freight handling includes freight handling facilities; and other includes recommendations not falling under the previous three categories.

10.21 Land Transportation

Motor Carrier

(1) With regard to Canada, there needs to be a special investigative advisory committee appointed to work possibly in conjunction with the 49th Parallel Institute which would look into the following transportation service problem areas:

- (a) A trucking barrier exists at the Canadian border for private motor carriers which restricts the movement of commodities caused in large part from the lack of uniform truck regulations with Canada.
- (b) A lack of refrigerated trucking in Canada.
- (c) The need to extend business hours at border stations and in particular at the Sweetgrass-Coutts customs facility.

(2) A study should be made relative to the total deregulation of trucking in the U.S. and Montana.

(3) A special study should be made relative to the possibility of the elimination of the State truck diesel fuel tax.

Rail Transport

(1) The State should take action to encourage competition with the Burlington Northern. The Burlington Northern is a progressive and efficient rail carrier. However, in the absence of competition in the State, the railroad will feel no commercial pressure to keep rates low or to introduce high productivity equipment or procedures. Competition can be attained at Butte where the Union Pacific provides service. The Canadian Pacific provides service along the Northern border of Montana and should be approached on developing procedures and rates for Montana cargoes. In a westbound direction, the Canadian Pacific can route cargoes through efficient U.S. ports such as Seattle, Tacoma, and Bellingham, Washington.

(2) With the railroad, ocean carriers and ports providing double-stack container train routes through Montana, this new technology should be monitored for possible service in the future should volumes or competition dictate.

(3) A potential to be investigated would be Burlington Northern's new International Marketing and Sales Department. The new department will have the responsibility for sales and pricing functions related to international piggyback and container traffic as well as international sales of conventional rail service.

(4) An investigation should be made by the State of Montana into the possibility of rail transportation subsidies to Montana shippers to better compete with Canadian exports.

Possible sources of funding this transportation subsidy would be resources related taxes.

10.22 Water Transportation

Barge-Inland Waterways

(1) Montana shippers should be encouraged to continue to use the Columbia/Snake River System and encourage any investment which would improve the efficiency of the system.

(2) Montana shippers, particularly for lumber and coal, should be encouraged to look at the potential for using inland waterways serving Great Lakes and Gulf ports particularly with respect to depressed barge rates on the Mississippi River.

Ports - Ocean Carriers

(1) A government or private association needs to be organized which can assist in providing shipping information and costs relative to the use of West Coast port and East, South, Gulf and Great Lakes ports. In the meantime, most ports maintain marketing departments and many have sales representatives in the field to provide shipping information and assistance. However, a freight rate analysis should be conducted on a no-preference origin-destination basis before making a decision.

(2) Greater emphasis needs be made to negotiate low rates for cargoes that can be carried in empty containers returned to the Pacific Rim and European countries.

(3) An investigation needs to be made into the possibility of shipping sulphur and other like cargoes in bulk form through the Ports of Seattle and Portland.

10.23 Export Shipping and Management Organizations

- (1) The State should encourage freight consolidation, container consolidation, and container pools in key commercial locations in Montana.

The Port of Montana at Butte offers container consolidation services, as well as some export and import facilitation services. These activities are an important service to the state, because they can reduce property and equipment positioning costs and allows use of rail contract rates. Services such as those offered by the Port of Montana should be promoted in order to maintain low freight rates and sufficient inventories of equipment to meet Montana shipper needs. As volumes dictate in the future, freight consolidation services should be encouraged in Billings and Great Falls. The Province of Alberta has formed a container consolidation service in Calgary in order to negotiate volume rates with the Canadian Pacific Railroad. The organization formed by the Province is called Alberta Intermodal Services. This organization should be contacted to see if they would accept Montana cargoes which would then enjoy the lower Canadian Pacific rate. A possible agreement may be able to be reached whereby a Montana organization such as the Port of Montana could solicit Canadian cargoes for movement out of Butte. This arrangement could increase competition and improve service in both Montana and Alberta.

- (2) Coordination may be developed with Burlington Northern's Intermodal Terminal operation which has a hub center at Billings with satellites at Missoula, Helena, Great Falls, and Shelby. There is a satellite of the Spokane hub in Whitefish. The hub centers are equipped with machinery to lift trailers and containers from ground to car. Possibly as volumes warrant, freight, container and container pool consolidation services could be developed in conjunction with these hub and satellite facilities.

(3) There is an indicated need for container loading facilities in the eastern portion of the State of Montana.

10.24 Other

(1) State Department of Commerce officials should maintain close liaison with key government and private transportation entities in other states and provinces to continually explore opportunities for reducing transportation costs. Many port authorities and private transportation companies are aggressively seeking business and, in some instances, will assist Montana shippers in developing cost-effective solutions to their exporting problems. This could include assistance in cargo documentation, banking services, equipment positioning, and carrier services. Key contacts include the Seaway Port Authority of Duluth, the Port of Milwaukee, and Chicago Regional Port District, the Port of Bellingham, the Port of Seattle, the Port of Tacoma, the Port of Longview, the Port of Vancouver (Washington), the Port of Portland, the Port of Oakland, the Port of Los Angeles, the Port of Long Beach, the Maryland Port Administration, the Port of New York and New Jersey, the Virginia Ports Authority and its export trading company VEXTRAC, the Port of New Orleans, Sea-Land Industries (based in New Jersey and Tacoma, Washington), American Presidents Lines (Seattle, Washington), and Lykes Bros. (based in New Orleans).

(2) As mentioned in the Marketing Action Plan, the State of Montana should encourage the formation of export trade facilities such as an export management company or, feasibility permitting over the long term, an export trading company or regional export trading company to represent Montana interests in international marketing, cargo consolidation, and negotiate service contracts with domestic and international carriers. Many of the disadvantages that Montana suffers in marketing and moving international cargoes can be addressed through an export

management company or export trading company.

(3) The Montana Public Service Commission and Montana Department of Commerce, Transportation Division should be made aware of small shippers that may have been exploited by shipping service professionals which tend to discourage further involvement in foreign trade.

10.25 Transportation Action Items

(1) The first priority is to create an organization that can consolidate cargoes and negotiate for volume transportation rates and service. Accordingly, the State should actively support efforts to form export trade facilities in Montana. Discussions should be held to determine how the State can support the proposed export trade facility financially. This may be accomplished through low interest loans and/or start-up grants during the first few years.

(2) In the era of transportation deregulation, high transportation volume becomes the optimum condition. Transportation is a so-called "derived industry," meaning that its sales depend on the product of the industrial, mining and agricultural sectors. The recent industrial disinvestment in Montana discourage transportation investment. The State must take unusual and dramatic action to stimulate industrial development and reverse investment. The first action should be to consider repealing the unitary taxing system and offer significant incentives to both industrial and transportation investors. The Department of Commerce could consider taking the initiative in these areas by drafting and promoting the necessary legislation.

(3) The existence of water transportation on the Snake-Columbia has a dampening effect on rail rates to deep water ports in Oregon and Washington. The State should initiate discussions

with the State of Idaho on how to improve rail and truck transportation to the Port of Lewiston, Idaho. Currently, both rail and truck routes from Montana to Lewiston are circuitous. A possibility could involve contracts from a Montana export trading company, with barge carriers servicing Lewiston in exchange for highway or state supported short line railway improvements in Idaho.

(4) The State should initiate positive discussions with the Burlington Northern in order to reverse the deteriorating relations between Montana and the railroad. Industrial development is a common goal. The State might consider reducing taxes, allow operating efficiencies and abstain from litigation in exchange for new investment in transportation and industrial development.

(5) The State should initiate discussions with the Ports of Montana, Seattle, Portland and Tacoma on joint actions to improve service between Montana and these ports. For example, Seattle serves as an agent for ocean carriers seeking rail double-stack container service inland. Tacoma also offers double-stack container carrier service. Accordingly, both ports negotiate volume rates on Burlington Northern double-stack unit trains transiting Montana. The Ports of Seattle or Tacoma may be willing to serve as an agent for Montana shippers and thereby obtain favorable rates for containers destined for export through their port. Note these types of negotiations are better conducted by the proposed export trade facility since it would have actual cargo to offer. However, interim discussions by the State may be useful.

(6) The State should initiate discussions with the Canadian railroads to determine their interest in serving Montana locations along the Canadian border. The criteria for service should be established.

(7) The State should begin discussions with Alberta Intermodal Services of Calgary to determine their interest in soliciting cargoes out of Montana. Alberta Intermodal Services was established and is supported by the Province of Alberta. It consolidates containers in order to negotiate volume rates on Canadian railroads. In exchange, the state should obtain equal rights for a Montana consolidator, such as the Port of Butte, to offer similar services in Alberta. This effort could reduce rates both east and west, and north and south for shippers in both jurisdictions.

(8) U.S. coastal seaports are aggressively competing for cargo. In many instances, they will assist shippers in routing cargoes through their ports and will give assistance in obtaining both inland and ocean rates. The State should maintain liaison with those ports that are likely to serve Montana shippers in the future. These include the Seaway Port Authority of Duluth, the Port of Milwaukee, the Chicago Regional Port District, the Port of Bellingham, the Port of Seattle, the Port of Tacoma, the Port of Longview, the Port of Vancouver (Washington), the Port of Portland, the Port of Oakland, the Port of Los Angeles, the Port of Long Beach, the Maryland Port Administration, the Port of New York and New Jersey, the Virginia Ports Authority, the Port of New Orleans. Addresses and telephone numbers for these ports are available through the American Association of Port Authorities in Alexandria, Virginia.

(9) The State should initiate a series of export marketing and transportation seminars and workshops in selected Montana locations to address foreign trade transportation problems. Speakers should be invited from major U.S. flag carriers such as Sea-Land, American President Lines, United States Lines and Lykes Brothers. In addition, representatives of the International Trade Administration, the Small Business Administration and appropriate port authorities should be invited.

(10) Additional transportation and marketing studies should be conducted by the State relative to domestic, Canadian and Mexican markets.

APPENDICES

Appendix

- A Study Methodology
- B Questionnaire (Montana Products)
- C Product Summary (Continued from Part 3)
- D Grimes & Associates Consulting Report
- E The World's Top 20 Country Consumers of
Commodities or Products Produced in Montana
- F Top 20 Export Potential Countries
- G Export Market Survey
- H Notes to Tables 7.1 - 7.12 and 7.15 - 7.18

STUDY METHODOLOGY

Introduction

This section is devoted to an explanation of the methodology employed by the Montana Department of Commerce, Montana Department of Agriculture, and other involved agencies while performing the study of: The Feasibility of Stimulating Montana Exports through Transportation Innovation. Included is a description of each project task, an explanation of how each task was accomplished, and a critique of each task in terms of its contribution towards the project's objective. Concluding this Section is a summary of general observations and recommendations concerning the overall study process.

Project Goals, Coordination and Structure

1. Objective

The purpose of this study was to identify potential export markets; determine the means for reducing transportation costs through the innovative use of domestic waterways and waterway facilities; identify institutional changes; and develop a State marketing program that can facilitate increased export activity. Due to funding and time constraints, the identification of potential domestic markets as a study objective was excluded with the main concentration centered on potential overseas markets.

2. Approach

The study was a cooperative research effort between the Maritime Administration of the U.S. Department of Transportation, the State of Montana, and the Port of Montana.

The joint sponsors of this study anticipated mutual benefits from the study findings. The State of Montana gains through an action plan which if properly carried out could

stimulate foreign export of its resources and products. In turn, increased exports of Montana products would profit the U.S. Maritime Industry through potential increased use of domestic waterways, inland and tidewater ports, and the U.S. flag merchant marine. For other states or organizations seeking to expand export markets, this study can provide guidance in terms of approach and methodology.

A Project Consultant was hired subject to State contract awarding procedures for the duration of the contract period.

3. Organization

The Maritime Study was initiated, organized and managed by the Transportation Division of the Montana Department of Commerce (MDOC) under the direction of William J. Fogarty, Division Administrator. Assisting Mr. Fogarty as Project Manager was Richard A. Howell, Manager, Special Projects Section, Transportation Division, Montana Department of Commerce. MDOC/Transportation Division responsibilities were to act in the capacity of lead agency responsible for federal grant administration including progress reporting, accounting and budget control, contracts, and agency coordination. Project assistance was provided by the Business Assistance Division of the Montana Department of Commerce, the Montana Department of Agriculture and the Port of Montana. The Consultant, Phillips Cartner & Co., Inc., provided technical direction and preliminary input for each study task.

4. Project Team Structure And Responsibilities

The Maritime Project Team, the primary policy coordinating organization for the Maritime Study, consisted of one representative from the Transportation Division of the Montana Department of Commerce, two representatives from the Business Assistance Division of the Montana Department of Commerce, one representative from the Agricultural Development Division of the Montana Department of Agriculture, and one representative from the Port of Montana. The Project Team's basic respon-

sibilities were to establish policy and approve the execution of required tasks necessary to accomplish the terms of the Maritime Study. The Project Manager acted in the capacity of the Project Team's chairman. The Maritime Project Team approved meeting minutes; evaluated and approved Consultant contract items; inputted their respective needs and experience, performed required study tasks; provided background research information; and approved study accomplishments.

5. Role Of Contractor

The purpose of hiring a Consultant was to assist in preparing a proposal and provide the team with technical expertise and assistance in performing the various requirements within the time frame of the contract. The project and team benefited from the experience of the Consultant particularly with respect to Tasks No. 5 and No. 6 which required considerable knowledge of maritime and inland transportation strategies, transportation rates, routes, and innovative techniques.

Project Tasks

Task No. 1: Inventory Exportable Commodities and Products

Purpose - The intent of this task was to identify those commodities and products that are exportable and to develop a catalogue of Montana industries interested in expanding foreign export activity.

Procedural Steps and Accomplishments

A. Identify Existing Export and Import Commodity Flows

1. Obtain Current Bureau of Census Data EA 664 and IM 154.

The Bureau of Census EA 664 and IM 154 data bases were found to be very difficult to find and obtain.

2. Obtain Journal of Commerce Data Runs Selected to

Further Determine the Origin and Destination of
Existing Montana Exports

The Journal of Commerce Piers (Port Import/Export Reporting Service) for the State of Montana was provided by the Maritime Administration of the U.S. Department of Transportation.

Critique - These data sources were specified by the Consultant in the study proposal. For the most part, it was found that the information found in the Journal of Commerce Piers was too general and lacked comprehensive-ness to be of any real use as a source to identify existing export and import commodity flows for Montana. Existing manufacturers and product directories and export questionnaires available through the Business Assistance Division of the Montana Department of Commerce were found to be more useful for determining Montana firms producing products with export potential.

B. Develop Questionnaire/Interview Program for Selected
Montana Resource Development and Manufacturing Industries.

1. Develop Interview Form

A draft of the questionnaire/interview form used in this task was initially developed by the Project Consultant. The questionnaire form was then reviewed by the Maritime Project Team and revised to include a number of changes deemed necessary.

2. Select Firms to be Interviewed

The following sources were used to determine which Montana firms would be interviewed:

- a. Montana Department of Commerce/Business Assistance Division's Montana Manufacturers & Products Directory.
- b. The Journal of Commerce PIERS for the State of Montana provided by the Maritime Administration.
- c. A Buyer's Guide and Export Directory for the Old

West Region.

- d. A special list of agricultural producers, firms, and associations prepared by the Montana Department of Agriculture.

3. Determine Geographic Areas Interviewed

The State of Montana was divided into six (6) regions in which each member of the Maritime Project Team interviewed firms within their respective region. For the most part these interviews were conducted in person; however, some were required to be conducted by telephone.

4. Select Number of Interviews and Sample Size

The sample size of the firms selected was 100%. Each firm thought to be exporting or having a potential to export in the State of Montana was scheduled to be contacted for an interview. The 100% sample size amounted to interviewing 203 Montana firms.

5. Establish Interview Period

In Montana due to the inclement weather, the period for conducting the interviews was scheduled for April through June of 1984.

Critique - The interview/questionnaire form used in Task No. 1 (Appendix B) was not complex and in large part with forethought may have been able to be designed by the Project Team. While conducting interviews it was found that Question No. 2 concerning export volume information beyond two to three years was not available or very difficult to obtain. With regard to Question No. 11, State/Federal Government Programs was too detailed and confusing. This level of detail was later found unnecessary.

In reference to selecting firms to be interviewed, usually, a state agency or private organization will already have done considerable work in determining firms located in a state that may have an interest in exporting.

In Montana's particular case, it was found that the Montana Department of Commerce and the Montana Department of Agriculture had completed work relative to locating firms with a potential for exporting nonagriculture and agricultural oriented products. A private organization had also developed an export manual which, although outdated, was useful. The publication entitled, "A Buyer's Guide and Export Directory for the Old West Region," included firms interested in exporting by commodity over a five state area. The Journal of Commerce PIERS would have been beneficial in that it gave an idea of volumes in total metric tons and number of shipments for both imports and exports but was not inclusive. The problem appeared in aggregation of data in which many of the firms exporting or importing lost their Montana identity.

Relative to conducting interviews, geographic areas were delineated which encompassed from 30 to 40 interviews per person for each of the six regions. This seemed to be an adequate interview load for each of the team members considering time, travel, and costs.

C. Conduct Interviews, Assemble Catalogue and Prepare Inventory of Exportable Commodities and Products

1. Conduct Interviews

The Consultant did have a training program with the final approved Task No. 1 questionnaire. This training program consisted of team members accompanying the Consultant during three interviews conducted locally. The major portion of the interviews were conducted from April 9, 1984 through April 27, 1984. Due to team work schedule conflicts, the remaining interviews were completed in May and early June, 1984.

2. Assemble Completed Questionnaires into Catalogue and Prepare an Inventory of Exportable Commodities and Products

Each completed interview/questionnaire was sorted and placed into one of five (5) export status categories: (1) Currently exporting - Potential for Exporting; (2) Have Not Exported - Potential for Exporting; (3) Have Exported - Not Interested in Exporting; (4) Have not Exported - Not Interested in Exporting; and (5) Could Not Contact. The following provides a summary by export status category of the interview/questionnaire respondents.

<u>Category</u>	<u>Firms</u>	<u>Percent of Total</u>
(1) Currently Exporting - Potential for Exporting	88	43.4
(2) Have Not Exported - Potential for Exporting	27	13.3
(3) Have Exported - Not Interested in Exporting	8	3.9
(4) Have Not Exported - Not Interested in Exporting	61	30.0
(5) Could Not Contact	<u>19</u>	<u>9.4</u>
TOTAL	203	100.0

All the interview/questionnaires were catalogued according to export status category and the completed questionnaire data developed into an inventory of Montana commodities or products capable of being exported. Categories (1), (2), and (3) were used to develop an inventory of firms and products with a potential for export.

Critique - In general, the interviewing went well. One problem that seemed to appear was that the team members at times were required to be involved in their respective agency projects which caused interview scheduling conflicts. Blocks of time needed for

interviewing were extremely difficult to obtain. As a result, some of the interviews may have required additional time which was not available. The interviews, however, were successful, particularly with respect to understanding producer/shipper goals and problems of Montana firms attempting to export.

Task No. 2: Identify Key Export Commodities and Products

Purpose - The object of this task was to prioritize those Montana commodities and products found during the interviews in Task No. 1. By prioritizing these products, the remaining study effort could be concentrated on export items that have the greatest positive impact on the State and the highest potential for successful movement.

Procedural Steps And Accomplishments

A. Construct Decision Matrix

A draft of the decision matrix to be used in determining key Montana export commodities and products was developed by the Project Consultant. This draft was reviewed by the Project Team and modified to include additional export commodities found to exist during review of the completed questionnaires in Task No. 1 (refer to Part 4 - Figure 4.1). With respect to procedures it was decided in order to reduce any bias that each team member would conduct the ranking three times, once for each of the three categories: (1) Currently Exporting - Potential for Exporting; (2) Have Not Exported - Potential for Exporting; and (3) Have Exported - Not Interested in Exporting.

B. Completed Key Commodity and Product Rankings

The Maritime Project Team with the assistance of the Project Consultant made the final selection of the study's priority products and commodities which are listed as follows:

1. Logs and lumber
2. Animal Feed
3. Wood Products
4. Meat and Meat Products
5. Chemicals and Fertilizers

6. Fabricated Metal Products
7. Grain
8. Livestock
9. Fruits and Vegetables
10. Ores
11. Copper
12. Hides and Furs
13. Agricultural Machinery
14. Wool
15. Coal

Generic classifications were then selected to facilitate market determinations in Task No. 3 - Determine Target Markets. The generic classifications selected were as follows:

1. Logs Lumber Forest, and Wood Products
2. Grain, Animal Feed
3. Meat Products, Fruits, and Vegetables
4. Livestock, Hides, Furs, and Wood
5. Ores (Includes Copper and Aluminum)
6. Chemicals and Fertilizers
7. Agricultural Machinery
8. Fabricated Metal Products
9. Coal

Critique - Although subject to considerable individual interpretation the decision matrix worked quite well. Main emphasis was still given to the results of the decision matrix rankings associated with firms currently exporting and have a potential to export. The second and third lists of firms were used to assist in establishing the final ranking of commodities in the first list. For the most part the products listed as the top fifteen commodities receiving the most points fairly accurately reflected preconceived theory as to what Montana products should have been included in the top fifteen grouping.

Task No. 3: Determine Target Markets

Purpose - The intent of this task was to take priority export commodities and products and match them to the most likely overseas markets.

Procedural Steps and Accomplishments

A. Identify Countries Importing Large Quantities of Montana's High Priority Export Commodities and Products

Using the 1981 Yearbook of International Trade and Task No. 1 "Current Export Activity" analysis worksheet, the Consultant prepared a list of countries that import Montana type product/commodities and countries currently importing from Montana (refer to Part 5 - Figure 5.1). Also using the 1981 Yearbook of International Trade, a list was prepared by priority commodity group of the world's top 20 country consumers of commodities or products produced in Montana (Appendix E).

B. Construct Decision Matrix for Prioritizing Target Markets

The Consultant constructed a decision matrix for prioritizing target markets which appears in Part 5 - Figure 5.2. The decision matrix - State of Montana Exports prioritized each country according to five criteria. These five criteria consisted of: (1) previous imports from Montana; (2) one of the worlds top five consumers of commodities of products produced in Montana; (3) close geographic proximity to Montana; (4) water transport involved and accounts for a significant portion of the landed cost; and (5) affinity with the State and recent exchanges or indications of interest. Each criteria was proposed to be ranked on a scale of 0 to 5. The Project Team with respect to evaluation of criteria 2 found a substantial bias was given to the top five consumers of Montana type products, and therefore, recommended a factor of .5 be calculated into the 0 to 5 ranking.

C. Prioritize Through Use of the Decision Matrix a List of Target Markets

In September of 1984, the Maritime Project Team met in which each individual team member through use of the decision matrix ranked the potential target markets. The results of each team member's ranking sheets were aggregated and totaled. Appendix F reflects the original

matrix and revised matrix rankings of the top 20 export potential countries for Montana. Based on the two lists and team judgement, the following countries were approved as top export potential countries:

Pacific Rim

Japan

Korea

China

Australia

Taiwan

Singapore

Hong Kong

Europe

United Kingdom

Germany

Netherlands

Optional

Canada

Mexico

Critique - For the most part, it was found that data from the World Trade Annual and the Maritime Administration's United States Oceanborne Foreign Trade Routes were not needed for Task No. 3. The Yearbook of International Trade and export information acquired from Task No. 1 seemed to be the best sources of information with respect to determining overseas markets.

It is questionable whether a Consultant is really required to develop the matrix that was utilized for this task. A more complex matrix with more explanation as to how it was developed may have reduced the need for the judgement required.

Task No. 4: Develop In-Depth Market Information

Purpose: In an effort to develop precise strategies for transportation and marketing the purpose of this task was to gain in-depth information on selected target markets. This task seemed to be the most difficult, time consuming and costly of the seven project tasks.

Procedural Steps and Accomplishments

A. Develop an Export Market Survey Form

This survey would provide specific data on names of purchasing companies or government organizations; normal terms of purchase; trading customs; quality standards; shipment size; customs duties and quotas; nontariff barriers; current supplies; and acceptable price ranges. The Project Consultant was contracted to prepare a draft of an export interview survey which would provide responses covering the required export data. The Project Team reviewed and evaluated the Consultant's proposed draft making minor changes as required. The reviewed questionnaire was then forwarded to the Maritime Administration as part of a Transportation Division progress report (refer to Appendix G).

B. Establish Interview Teams

At the same time the Export Market Survey was being designed, it was necessary to begin to consider the composition of the interview teams. In Task No. 3 it was resolved that basically three World areas would be interviewed which consisted of:

- (1) North Pacific - Japan, Korea, Taiwan
- (2) South Pacific - China, Hong Kong, Singapore
- (3) Europe - United Kingdom, Netherlands, Germany

It was also concluded by the Project Team that team members should travel in pairs for interviewing in order to improve geographic orientation, language translation, interview retention, etc. The travel team members consisted of the following:

- (1) Japan, Korea, Taiwan - two representatives from the Business Assistance Division of the Montana Department of Commerce.
- (2) China, Hong Kong, Singapore - one representative from the Montana Department of Agriculture and Project Consultant.
- (3) United Kingdom, Netherlands, West Germany - one

representative from the Transportation Division of the Montana Department of Commerce and one representative from the Port of Montana.

It was decided that each of the three teams would individually be responsible for making travel arrangements, embassy contacts, obtain appointments with firms and embassy officials to be interviewed, and mailing of the Export Market Survey to perspective persons to be interviewed.

C. Determine Purchasing Companies or Government Organizations to be Contacted

Perhaps the most difficult portion of Task No. 4 was to determine how to go about locating and contacting overseas import firms to be interviewed. This in large part was a problem caused by a lack of experience on the part of the team.

Initially an attempt was made to contact the U.S. Department of Commerce Commercial Officer in charge of each respective country in Washington, D.C. The U.S. Department of Commerce informed the Team to contact each overseas Commercial Officer at U.S. Embassies in the prospective country.

The next attempt was to contact the foreign embassies in Washington D.C. in which the Team learned that the foreign embassies could not provide the names of firms in their respective country. The foreign embassies could only provide the names of firms in the U.S. importing their country's products.

The Project Team then sent a cover letter from Governor Schwinden to the U.S. Embassy in each country asking the embassy to assist by providing the names, addresses, contact person, telex number, and telephone number of firms importing Montana type commodities. For the most part, each embassy Commercial Officer and Agricultural Trade Officer responded, depending on whether the product was agricultural or nonagricultural, with a list

of firms to contact. For some countries, catalogs were available by commodity type which provided background information on each firm. These catalogs were published by the U.S. Department of Commerce and other international organizations. However, the Montana Department of Commerce's catalog collection was not complete, so Teams No. 2 and No. 3 had to rely on overseas U.S. Embassy information.

D. Conduct Interviews to Determine Market Information

Prior to each travel team commencing on their trip, a copy of the Export Market Survey was mailed to each firm and embassy official to be interviewed. Each team for the most part interviewed only one firm per commodity group in each country due to time constraints. Team No. 1 traveled to Japan, Korea and Taiwan from March 11-21, 1985. Seven (7) interviews covering grain, hides and furs, feedstuffs, and talc took place in Japan. Four (4) interviews covering log and lumber products, wheat, meat, and grain took place in Seoul, Korea; and seven (7) interviews involving wheat, barley, meat, hides and furs, and wool were conducted in Taiwan.

Team No. 2 departed on April 28, 1985 and conducted interviews through May 12, 1985. Their interviewing of firms and embassy officials took place in China, Hong Kong, and Singapore.

Team No. 3 traveled to the United Kingdom, Netherlands and West Germany from April 12-29, 1985. Five (5) interviews were conducted in London relative to wood products, grain, animal feed and ores. Eight (8) interviews were conducted in the Netherlands which involved grain, coal, meat and meat products, hides and furs, wood products, and animal feed. Seven (7) interviews were conducted in Hamburg, West Germany concerning meat, seeds, coal, grain, and animal feed.

Critique - The following are a series of comments

reflecting possible task modifications that may have improved the outcome of Task No. 4:

1. With respect to deciding which firms to interview, it would have saved considerable time and effort if the team would have directly contacted the U.S. Embassies overseas. Additional assistance may have been provided by contacting the U.S. Department of Commerce to see if a catalog of firms was available for the respective country to be interviewed.
2. Export Market Survey questions should not be written in such a manner as to imply Montana is trying to "beat out" the overseas firm's present source of a commodity. It was noted several times that the loyalty of a responding firm to its supplier tended to create a negative feeling and response on the survey.
3. With respect to obtaining specific responses, such as those requested in the Export Market Survey, do not anticipate receiving this type of response from overseas U.S. Embassy Officials. Several times the response "don't know" was obtained. U.S. Embassy Officials, however, were very useful in contacting firms, providing narrative reports and securing interviews.
4. Very few U.S. Embassy Officials or overseas firms would complete the Export Market Survey previous to a scheduled interview.
5. If time and funding are constraints, a study such as this should concentrate on fewer countries.
6. Insure each team member, including consultant personnel, has sufficient time scheduled to allow for an entire trip.

Even with all of the interviewing difficulties that arose, it still appeared to be a very worthwhile method from the standpoint of experience and State contacts with overseas diplomats and import firms.

Task No.5: Transportation Corridors, Costs and Alternatives

Purpose - The purpose of this task was to identify transportation corridors and evaluate the transportation costs and alternatives for moving commodities and products to key markets.

Procedural Steps and Accomplishments

A. Identification of Transportation Corridors

Each travel team organized in Task No. 4 prepared summaries of the Export Market Surveys they conducted in their respective countries. The summary included a table by country and by commodity, a description of the commodity prospect, annual import quantity, delivered price, transport cost as a percent, typical destination, typical shipment size, frequency of shipment, typical configuration, estimate of best percentage of market U.S. can expect, estimate of best percentage of U.S. market Montana can expect and most important transportation factor.

Of those commodities ranked with a moderate to high prospect the contractor identified the alternative means of transport for each market corridor. A total of 40 alternative transportation routes were analyzed.

B. Calculation of Transportation Costs

The Project Consultant mapped each alternative route and calculated transportation costs from point to point. Local drayage, carrier rates, elevation costs, stevedoring costs, and other relevant charges by route were established and broken down as to motor carrier cost, rail transport cost, port cost, or ocean carrier cost. These transport costs were then totaled by route and added to the product cost to determine the Montana delivered cost for each market. Each product was then described in narrative form as to route, mode of transportation, market source's present delivered cost, and a comparison with Montana delivered cost.

The impact of exchange rate fluctuations were considered along with an estimate of Montana's potential share by product in terms of tons and dollar value.

Critique - It was found very important to ensure that the Montana product price was clearly established in the Task No. 1 questionnaire/interviews and market delivered price was determined in the Task No. 4 Export Market Survey. Because of the inability in some cases to obtain this data, considerable effort was expended during this task to obtain this data.

Task No. 6: Transportation Innovation and the Employment of Waterways and Maritime Assets

Purpose - The objective of this task was to test innovative transportation scenarios as a means of reducing transportation costs and determine transportation efficiencies through the use of waterways and maritime assets.

Procedural Steps and Accomplishments

A. Determine Substitute Waterway Routes

The objective of this task was to determine which routes were subject to significant total cost reductions through the substitute use of waterway or marine assets, or through improved efficiency in the use of marine assets. Substitute transportation waterway routes were selected by the team and contractor and consisted of the Snake River/-Columbia System, Great Lakes and Missouri-Mississippi System. An analysis and comparison of water modes of transportation was made with respect to the transportation route alternatives described in Task No. 5. Coal, wheat, barley, and softwood lumber were the Montana products selected for this analysis comparison. An additional fifteen water routes with respect to the above Montana products were compared and summarized.

B. Transportation Innovation Impacts

The Consultant on key selected routes researched different alternatives giving consideration to the feasibility for exploiting backhaul routes, potential for double-stacked containers, potential for developing an export trading company, and using innovative methods of stuffing containers. Tables were developed for each of the subject areas comparing cost differences to land route alternatives. A narrative description and summary was prepared by the contractor describing innovation methods.

Critique - Water transportation innovative techniques is a subject area in which the Transportation Division had little experience. It was primarily for this transportation specialty area that a Consultant was hired that had experience in costing out these innovation transportation techniques.

Task No. 7: Action Plan

Purpose - The objective of this task was to translate the findings of the previous six tasks into an implementation or action plan, which has two specific elements: (1) transportation; and (2) marketing.

Procedural Steps and Accomplishments

A. Transportation Action Plan

The Consultant prepared a recommended outline for the transportation action plan which was reviewed by the Project Team. The Transportation Division of the Montana Department of Commerce using transport-related data obtained in Tasks No. 1, No. 4, No. 5, and No. 6 along with Consultant recommendations developed the Transportation Action Plan. The plan addressed the steps that would have to be taken in order to realize the innovation necessary to ensure that Montana products can be delivered

to foreign markets at a competitive price. Addressed, also, were institutional changes in both government and private sector that would be required to take place in order to promote the necessary transportation efficiencies.

B. Marketing Action Plan

The marketing action plan format and recommendations were developed by the Consultant, the Agricultural Development Division of the Montana Department of Agriculture, and Business Assistance Division of the Montana Department of Commerce. Steps were specified that should be taken by Montana government and industry to market commodities and products overseas.

Critique - The preparation of an action plan was undertaken by those agencies responsible for implementation of the plan recommendations. The Project Consultant was used to help organize the format of the action plans and recommend needed actions while each of the State agencies represented on the Project Team was responsible for the preparation of their respective parts to the two action plans. This approach seemed to work well since each agency had to carefully weigh the circumstances and impacts of their recommendations.

Summary:

A. General observations and recommendations concerning the overall study process.

1. Relative Success in Meeting the Study Objective

The study did meet its primary objective which was to identify existing and potential export markets for Montana products. The process utilized for locating domestic markets would be substantially different from locating foreign markets and should be further investigated at a later date.

One of the major areas not covered in detail due to a lack of sufficient time and funds was an indepth export study of Canada and Mexico. Canada from responses received in Task No. 1 appeared to be one of the largest importers of Montana products.

2. Recommended Changes in Approach of Tasks

- a. A recommendation is made with respect to domestic (within the United States) market studies in that they should be undertaken separately from foreign market studies. This is particularly true with respect to Montana since transportation to some domestic markets may not involve water transportation.
- b. Interviewing with private firms both in Montana and abroad seems to be a problem since many of these firms are reluctant to provide data that relates to their company. It may be more worthwhile to interview trading companies.

3. In-House Versus Consultant

The project to a large degree can be accomplished with in-house staff. Depending on the availability of staff time, Consultant time could be limited to only those areas that require professional expertise. Interview/questionnaire forms could be obtained from a Consultant in a sample form from another study and reviewed by the Project Team and Consultant rather than the Consultant preparing an original survey form. Matrix development as in Tasks No. 2 and No. 3 could be handled in the same manner as the interview/questionnaire forms. Interviewing may largely fall on the shoulders of the in-house staff anyway. Unless the in-house staff has considerable experience in transportation rates, tariffs, and innovation techniques, Consultant expertise should be used in these areas. For the most part, the preparation of an action plan should be the responsibility of the

in-house staff with recommendations coming from the Consultant. The experience of the Project Team was to find that both in-house and Consultant services were needed. Considerable benefit was gained by using in-house staff with respect to experience and knowledge.

4. Possible Follow-Up Work

- a. There is a need to research and identify domestic markets.
- b. Major areas still needing additional study are Canada and Mexico.

COVER SHEET TO QUESTIONNAIRE

The Montana Department of Commerce, with assistance from the firm of Simat International Ltd. is conducting a study aimed at stimulating exports from the State.

We are asking your assistance in collecting current data and information necessary to prepare a comprehensive and accurate appraisal.

The final result will aid you, as a current or potential exporter, in evaluating market opportunities for your products.

We would appreciate it if you could answer, to the best of your knowledge, the following questions. If you prefer to complete the form and submit it by mail, please forward it to:

Mr. Richard A. Howell
Director, Policy & Research
Transportation Division
Department of Commerce
State of Montana
1424 9th Avenue
Helena, MT 59620

COMPANY NAME: _____

ADDRESS: _____

TELEPHONE: _____

RESPONDENT NAME/TITLE: _____

DATE OF INTERVIEW: _____

INTERVIEWER: _____

CURRENT EXPORT ACTIVITY

Please provide specific information on each product your firm currently manufactures and exports:

1. <u>Product Description(s)</u>	a. _____	b. _____	c. _____	d. _____
2. <u>Exoort Volume (LBS) of Each Product</u>				
1983	_____	_____	_____	_____
1982	_____	_____	_____	_____
1981	_____	_____	_____	_____
1980	_____	_____	_____	_____
1979	_____	_____	_____	_____
3. <u>Primary Destination(s) of Exoorted Product(s)</u>	_____	_____	_____	_____
4. <u>Exoort Gateway</u>				
West Coast (Puget Sound)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
West Coast (Bay Area)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
West Coast(LA/Long Beach)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
West Coast (Columbia/ Snake River System)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Atlantic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gulf	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Great Lakes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Canada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mexico	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. <u>Is Product Containerized for Export?</u>				
8x8x20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8x8x40	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not Containerized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. <u>Estimated Transport Costs by Unit (MT, Container, CWT)</u>				
Inland	\$ _____	\$ _____	\$ _____	\$ _____
Port	\$ _____	\$ _____	\$ _____	\$ _____
Ocean, or;	\$ _____	\$ _____	\$ _____	\$ _____
Point to Point	\$ _____	\$ _____	\$ _____	\$ _____
7. <u>Is Product Price-Sensitive (Would 10% increase in overall cost reduce sales by 10%)?</u>				
YES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. <u>Would Reduced Transport Costs (Including Reduced Costs Through Improved Cargo Handling Help Stimulate Sales?</u>				
YES	<input type="checkbox"/> by _____	<input type="checkbox"/> by _____%	<input type="checkbox"/> by _____%	<input type="checkbox"/> by _____%
NO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. <u>Specify Principal Inland Mode of Transport</u>				
Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(specify carrier):	_____	_____	_____	_____
Motor Carrier				
- Private	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Common	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Contract	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Truck/Barge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rail/Barge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

POTENTIAL EXPORT OPPORTUNITIES

10. Do you feel there is potential for exporting more of your products?

YES ☐

NO ☐

If YES: (a) Specify product(s) _____

(b) Identify market(s) _____

(c) What is needed to initiate this export activity?

- ☐ Lower transportation rates
- ☐ Innovative/improved transportation service
- ☐ Financing assistance
- ☐ Improved market intelligence
- ☐ Cost-effective cargo-handling
- ☐ Other (specify) _____

11. Please indicate () if you are aware of the following State/Federal Government programs designed to promote and aid exports?

Federal:

- ☐ Export Import Bank (EXIM)
- ☐ Foreign Credit Insurance Association (FCIA)
- ☐ International Trade Administration (ITA)
- ☐ Dept. of Commerce Trade Opportunity Program (TOP)
- ☐ Dept. of Commerce Trade Information Reports (FET/OSR)
- ☐ Dept. of Commerce Agent/Distributor Service (ADS)
- ☐ U.S. Trade Missions
- ☐ U.S. Trade Shows/Trade Centers
- ☐ Small Business Administration
- ☐ Office of Export Trading Companies
- ☐ U.S. Foreign-Trade Zones Board
- ☐ USDA Foreign Agricultural Service
- ☐ U.S. Foreign Commercial Service
- ☐ Other (specify): _____

State:

- ☐ Overseas Trade Missions/Trade Shows
- ☐ Marketing Assistance and Market Development
- ☐ Export Education
- ☐ Foreign-Trade Zone
- ☐ Other (specify): _____

12. Are you aware of the export facilities available at the Port of Montana in Butte?

YES ☐

NO ☐

13. Are you aware of the foreign trade zone in Great Falls?

YES ☐

NO ☐

14. (If NO to either of the above questions, interviewer should provide information and then ask:)

Do you feel use of a foreign-trade zone could improve your ability to export your products?

YES ☐

NO ☐

15. Finally, do you have any specific suggestions for ways to reduce transportation costs and thereby increase export opportunities for Montana products?

(Product Summary Continued from Part 3)

Agricultural ProductsDairy Products

- (1) Firms in this commodity category are not large exporters but do intend to initiate the export of cheese to Canada this year (1984). Cheese products are not containerized or price sensitive but have a high transport cost (\$5/cwt). The mode of transport is by private and common motor carrier into Canada.
- (2) Activities needed to export includes: lower transportation rates, innovative improved transportation service, financing assistance and improved market intelligence. Firms are unaware of federal and State exporting assistance or the facilities at Butte and Great Falls. The basic problem is the lack of refrigerated trucking in Canada.

Fish

Firms that raise fish in Montana do not export. These firms do sell fish to food processors for smoking and canning which are then exported. This volume, however, is low.

Nursery Stock and Seeds

- (1) The three (3) firms interviewed in this category exported an estimated 160,000 pounds of plants and seeds from Montana to Europe, the Far East including China, Canada, and the Middle East. The West Coast - Puget Sound, San Francisco Bay area, and Canadian gateways were most often used for European and Far East container shipments. Shipments to the Middle East and Canada were not containerized. For nursery stock, which is shipped by air, the customer pays the freight. Seed companies paid \$3.25/cwt

to ship by common or contract motor carrier and a \$3.00/cwt ocean rate to China. For the most part, nursery stock and seed are not price sensitive, but reduced transport costs would help sales. Air, rail, private, common and contract motor carriers are the principal inland modes of transport.

- (2) Potential markets were seen in China, South Korea, Saudi Arabia, Africa, Mexico, and Canada. Activities needed to export included: lower transportation rates, financing assistance and improved market intelligence. Other than the Small Business Administration, few federal or State export assistance programs were known by the firms. Two out of the three firms were aware of the Port of Montana and FTZ in Great Falls. Reduce transport cost suggestions included letter of credit problems, and better transportation service.

Apiary Products

- (1) Montana apiary products include: honey, bee pollen, leaf cutter bee boards, and hives. Six (6) firms were interviewed in this commodity category of which one firm has discontinued the export of hives. Approximately 40,000 pounds of honey was exported to Saudi Arabia, while bee pollen, bee boards, and hives were exported to Canada. Some hives were exported to New Zealand. The honey was containerized in 20 foot containers and shipped through an Atlantic Coast gateway (Baltimore). Canadian exports were not containerized. The hives exported were shipped through the West Coast - Puget Sound gateway to New Zealand. Transport costs for honey by inland common and contract motor carrier were 13¢/lb. and the ocean rate was 6¢/lb. to Saudi Arabia. For the most part Canadian buyers come to Montana to purchase bee boards and hives and transport the products themselves back across the border. Bee pollen is transported to Canada by UPS or common motor carrier.

- (2) Primary potential markets are: honey in the Middle East, Netherlands, and Japan; bee pollen in the Pacific rim countries; bee boards in Canada, Soviet Union, Yugoslavia; and bee hives in Canada. Activities needed to export include: lower transportation rates, financing assistance, improved market intelligence along with lower duty rates in Japan, overseas marketing assistance in natural food shows, and an improved agricultural market. With one exception, few firms knew about the federal or State export assistance programs, but did have knowledge of the Port of Montana. Only half of the firms knew of the Great Falls FTZ. Reduce transport cost suggestions and problems included: (1) inland freight charges, a barrier to exporting honey, (2) inland freight costs high, and (3) a problem with Canadian duty on leaf cutter bee boards since they are classified as nonagricultural.

Christmas Trees and Decorations

Only one (1) firm was interviewed within this commodity category. The only exporting being carried out is through U.S. Government contracts.

Nonagricultural Products

Beverages

- (1) Of the two (2) firms interviewed, one (1) currently exports \$1 million worth of soft drinks to Canada. The soft drinks were not containerized and were transported to their Canadian destination by contract motor carrier. The product is price sensitive, and reduced transport costs would help sales.
- (2) Both a soft drink producer and an alcoholic beverage firm indicated potential export opportunities. The soft drink producer listed root beer as a potential export product while the alcoholic beverage firm considered bourbon as an export potential to Japan, Taiwan, and New Zealand.

Activities indicated as needed for export were lower transportation rates, financing assistance, and improved market intelligence. Both firms were aware of federal export assistance programs with only one being aware of the State export assistance program. A suggestion for reducing transportation costs was to develop an inventory of truck brokers licensed in Montana relative to whether they operate interstate and/or international.

Processed Foods

- (1) Of two (2) firms interviewed, both currently export. One firm processes both Mexican food and trout and exported over 2,000 pounds to Mexico in 1983. The other firm produces freeze dried and dehydrated foods, and exports to Canada. Processed foods exported to Mexico are containerized in 20 foot containers and shipped through the West Coast - Puget Sound and San Francisco Bay area gateways. Freeze dried and dehydrated foods destined for Canada are not containerized. Canned Mexican food and trout are shipped to the West Coast via rail and common motor carrier at a rate of 35¢/pound, are price sensitive, and reduced transport costs would help sales. Freeze dried and dehydrated foods are shipped to Canada by air, UPS, or U.S. mail, are not price sensitive, but reduced transport costs would help sales.
- (2) Activities needed to export included: lower transportation rates, financing assistance and improved market intelligence, which ranked highest. Few federal or State export assistance programs were known. One firm was aware of the Port of Montana and neither knew about the Great Falls FTZ. Reduced transport cost suggestions included: (1) ship with other producers, and (2) order materials in producer groups.

Clothing

- (1) Two (2) firms were interviewed in the clothing category.

One (1) firm interviewed is currently exporting hunter clothing. In 1983 approximately 300 pounds were exported to Canada, Europe, and Japan via the Canadian and Atlantic (New York) gateways. The product is sent by UPS and postal service. The product is price sensitive, and reduced transport costs would help sales.

- (2) Potential export opportunities are felt to exist for hunter clothing in Australia as well as expand the existing market area. A footwear company indicated no market preference. Improved market intelligence and financial assistance were indicated as assisting exports. Both firms were aware of few federal and State export assistance programs. One firm knew of both the Port of Montana and Great Falls FTZ facilities.

Veterinary and Medicine Products

- (1) One firm produced research products which fell within this commodity category. Approximately 200 units were exported in 1983 to Europe and Japan. The European export gateway was the Atlantic while the West Coast - Puget Sound gateway was used for Japan. The products were shipped by air and not containerized. It was indicated that research products are price sensitive, but reduced transport costs would not help sales.
- (2) Potential export opportunities were indicated to exist for veterinary products in cattle countries. The firm was aware of a few federal export assistance programs, but not any of the State's. Relative to export facilities, the firm was aware of the Port of Montana but not aware of the Great Falls FTZ.

Scientific Instruments

- (1) Seven (7) firms were interviewed four (4) of which are currently exporting temperature control devices, load cells and electronic controllers, dental hand instruments, and fiber optics. Approximately 11,300 pounds of

these products were exported in 1983 with temperature control devices, load cells, and electronic controllers going to Canada; dental hand instruments to Europe, Australia, and Japan; and fiber optics going to Singapore and England. Canada and West Coast - Puget Sound were the export gateways. These products are not containerized, and are shipped airfreight or UPS. For the most part these products are not price sensitive. Half of the firms indicated reduced transport costs would help sales while the other have suggested it would make no difference.

- (2) Potential export opportunities for temperature control devices exist in Canada, Japan, Norway, and Sweden; load cells and electronic controllers in Southeast Asia, Canada, and Mexico; dental testing equipment and hand instruments in Egypt, Saudi Arabia, Middle East, Australia, Canada, Central America, and New Zealand; fiber optics worldwide; photogrammetric instruments Australia; and oil field depthometers in the Middle East, North Atlantic, South America, and Canada. Financing assistance and improved market intelligence were the two activities most often indicated as needed for export. Of the seven (7) firms only one knew much about federal and State export assistance programs. Most firms were aware of the Port of Montana, but few were aware of the Great Falls FTZ facility. Suggestions included: (1) need more market assistance and financing, and (2) Canadian Customs discourage trade.

Printing and Publishing

- (1) Two (2) firms fall within this category. One firm exports periodicals, and the other firm exports game cards and lottery tickets. The 1983 export volume for periodicals was 500 units which were distributed to all West Coast ports, Atlantic Coast ports, Canada, and Mexico. Cards and lottery tickets were exported to

Canada, Virgin Islands, and Puerto Rico through the Canadian gateway. Periodicals were containerized in 20 foot containers and shipped inland by common motor carrier. Game cards and lottery tickets were not containerized and shipped by common motor carrier at a rate of \$16/cwt. Neither firm indicated their products were price sensitive. The game card and ticket producer indicated reduced transport costs would help sales, while the other firm suggested it would make no difference.

- (2) Potential export markets for some periodicals were pointed out as the Far East, South Asia, Australia, and Germany. Potential markets for game cards, lottery, and bingo cards were seen in Canada, Pacific rim, and Europe. Lower transportation rates and improved market intelligence were seen as activities needed to increase export. The firms were aware of no federal export assistance programs and only a few State programs. Only one firm was aware of the Port of Montana and Great Falls FTZ facilities. A suggestion for reducing transportation costs was to obtain more equitable shipping rates.

Petroleum

Although petroleum is exported via pipeline to Canada, most petroleum from Montana is used domestically. Oil exported to Canada is usually in the form of a trade for oil imported from Canada into another state within the U.S.

Concrete and Clay Products

- (1) Three firms were interviewed in this category which produced Portland cement, bentonite, and crude ground talc. In 1983, four million pounds of cement and 146 million pounds of bentonite was exported to Canada, Tasmania, Australia, Europe, and the Philippines, and six million pounds of crude ground talc was shipped to Japan and Europe. The export gateway for cement was Canada;

bentonite was West Coast - Puget Sound, Gulf, Great Lakes, and Canada; and talc was the West Coast - Puget Sound. Cement is not containerized; bentonite is containerized at Seattle, transported bulk over the Great Lakes, and bagged for Canada, Portland, and Gulf gateway shipments; and talc is containerized. Inland transport costs for cement were \$1.24/cwt; for bentonite \$25/ton bulk, \$60/ton bagged with a port cost of \$5-\$9/ton; and \$750-\$900/container for talc. Ocean rates for talc were \$1,800/container to Japan and \$2,200/ container to Europe. All three products are price sensitive and reduced transport costs would help sales. Bentonite and talc are mainly shipped by rail, while cement is shipped by private and common motor carrier.

- (2) Potential export opportunities other than expanding present markets are: bentonite possibly the Middle East (Iran), and talc the Pacific rim and Canada. The main activities indicated as needed for export were lower transportation rates with cost effective cargo-handling second. Few federal or State export assistance programs were known by any of the three firms. All three firms were aware of the Port of Montana and only one was aware of the Great Falls FTZ. Problems and suggestions included: (1) bentonite cannot be stockpiled in bulk form except at Portland; (2) stability is needed in the exchange rate; (3) develop long range commodity counter trade; (4) standardize Montana and Canadian truck regulations; and (5) more transportation competition is needed with Burlington Northern Railroad.

Engine Machinery

- (1) Only one firm was interviewed within this category which produces glass lifters. The primary destination for this product is Australia and Europe. The export gateway used for Australia is West Coast - Puget Sound and Atlantic Coast for Europe. The inland mode of transport is by

private motor carrier.

- (2) Potential export opportunities are seen worldwide. Activity needed to export is new markets. The firm was not aware of federal and State export assistance programs, the Port of Montana, or Great Falls FTZ.

Industrial Machinery

- (1) Nine (9) firms were interviewed that are currently exporting products falling within this category, and one (1) firm that is not currently exporting is interested in doing so. Products currently being exported include weeder and farm tillage tools, hydraulic cylinders, mining and construction equipment parts, cement batching equipment, fertilizer spreading equipment and storage tanks, excavation equipment, drilling equipment parts and accessories, sawmill systems, pumps, air compressors, and industrial sprockets and gears. The primary destinations of these products are Canada, South America, Africa, Mexico, Saudi Arabia, Nigeria, Australia, and China. The export volume of these products in 1983 from Montana amounted to 443,540 pounds with a total value of approximately \$1 million. Export gateways used were Canada, Atlantic Coast (New Jersey), Mexico, West Coast - Puget Sound, LA/Long Beach, and the Gulf. Most of these products when exported are not containerized, but are crated. Inland transport costs vary: cement batching equipment - \$1.50/loaded mile; fertilizer equipment - \$1.75/loaded mile or \$6,400 point to point to Saudi Arabia; excavation equipment - \$5,000/machine; drilling equipment - 14¢/pound (ocean 64¢/pound to Saudi Arabia); sawmill systems - \$1.10/mile; and air compressors \$24/cwt. Most products were considered price sensitive and reduced transport costs would help sales. All use private, common, or contract motor carriers.
- (2) The one firm interested in exporting but is not currently exporting produces conveyors. Potential markets for

products in this category, other than those countries currently being exported to, include mining countries, Greece (excavating machinery and conveyors), and Central America (pumps). The most common activities needed for export are improved market intelligence and financing assistance. Most of the firms were not aware of federal export assistance programs, and none of the firms were aware of State programs. Only three (3) of the firms were unaware of the Port of Montana, while almost all were unaware of the Great Falls FTZ. Problems mentioned by the ten firms were: (1) trade problems with Canada, and (2) Canadian duties discourage trade. Some of the firms did not feel they had a transportation problem due to the high cost of their product.

Electrical Machinery

There were no firms interviewed which fell into this commodity category.

Transportation Equipment

- (1) Interviewed were three (3) firms within this commodity category of which two (2) firms are currently exporting. One firm which once exported aircraft parts has not exported for several years. Of the two (2) firms currently exporting, their products are fire trucks, and helicopter rebuilding and parts. Nine (9) fire truck units were exported to Iraq and Saudi Arabia, while helicopter parts and services were exported to Malaysia, Singapore, Burma, and the Philippines. Fire trucks were exported through the Atlantic Coast gateway and helicopter parts through the West Coast - Puget Sound. Neither of the products were containerized. The transport cost for helicopter parts via airfreight is \$300/cwt. Both products were indicated as price sensitive, and reduced transport costs would help sales. The inland mode of transport for fire trucks is private motor carrier and

for helicopter parts and rebuilt helicopters periodically by truck/barge, however, mostly by air. The fire truck firm does use a broker.

- (2) Potential export opportunities for fire trucks are seen in South America and the Far East, while for reconditioned helicopters and parts in Europe and the Far East. Lower transportation rates, innovative improved transportation service, financing assistance, and letter of credit assistance are seen as activities needed to export. Both firms indicated an awareness of federal export assistance programs while only one firm was aware of State programs. Only one firm knew of the Port of Montana and Great Falls FTZ facilities. Suggestions and comments included: (1) no tariff barriers in Canada; and (2) Montana sales tax exemption is important.

Computers

- (1) Three (3) firms interviewed fell within this commodity classification. Two (2) of these firms currently export. One firm exports computer dairy cow feeders and the other weather equipment data to Canada. The present (1983) export volume amounts to \$320,000/year and includes 15 computer feeder units. The products are not containerized and are shipped by UPS and air. The firms indicated the products to be price sensitive, however, reduced transport costs would not help sales. The firm exporting dairy feeders does use a broker.
- (2) Potential export opportunities are seen for electronic products and computerized dairy feeders in Canada, Europe, and South America. Improved market intelligence and the need to be put in touch with markets are the activities indicated as needed to export. The three (3) firms are aware of few federal and State export assistance programs. Two (2) firms were not aware of the Port of Montana or Great Falls FTZ facilities. Suggestions included: (1) duty free trade between the U.S. and

Canada; and (2) strength of the U.S. dollar.

Telecommunications

- (1) Two (2) firms in this commodity classification currently export. One firm produces satellite antennas and the other microwave components. Ten units of satellite antennas were shipped to Canada in 1983, as well as \$200,000 worth of microwave components to all free world countries. Satellite antennas were containerized and shipped UPS to Canada. Microwave components were not containerized and shipped by air to their destinations. Both satellite antennas and microwave components were considered price sensitive. Only the firm exporting satellite antennas thought reduced transport costs would help sales.
- (2) Potential export opportunities for satellite antennas were seen in Mexico, South America and the Philippines. Lower transportation rates and improved market intelligence were seen as activities needed to export. Both firms were not aware of federal or State export assistance programs. Only one firm was aware of the Port of Montana, and neither firm knew of the Great Falls FTZ. The firm producing microwave components stated one problem was that the U.S. Department of Commerce licensing was too slow.

Recreational Equipment

- (1) Of four (4) firms, three (3) firms currently are exporting products. During 1983, forty-nine (49) camper units were exported to Canada, \$100,000 worth of fishing tackle was exported to 35 foreign countries, and four shipments of taxidermist products were shipped to Australia and Japan. One firm producing exercising equipment no longer exports because of competition from Korea and Taiwan. Of the firms currently exporting none of the products are containerized. Campers are shipped to Canada point to

point for \$1.25/mile by private motor carrier, fishing tackle is shipped by air and postal service, and taxidermist products are shipped F.O.B. by private and common motor carrier. The products were indicated as price sensitive, and reduced transport costs would help sales. Both the firms producing campers and taxidermist products use brokers.

- (2) Potential export opportunities for the camper firm are seen in expanding their market in Western Canada, while the fishing tackle firm sees expanding their respective market worldwide. Innovative improved transportation service, financing assistance, improved market intelligence, and lower duty and exchange rate were indicated as activities needed to export. The three (3) firms were aware of few federal export assistance programs, and not aware of any State programs. Two (2) of the firms were aware of the Port of Montana and none were aware of the Great Falls FTZ facilities. Suggestions for reducing transport costs included: (1) reducing gasoline taxes; (2) U.S. dollar value; and (3) reducing cost of transportation through brokerage services.

TO: Byron Roberts, John Maloney
Montana Department of Commerce

FROM: Clint Grimes *CEG*

RE: GRIMES & ASSOCIATES CONSULTING REPORT, SEPTEMBER, 1985

DATE: September 20, 1985

Attached are tables representing research into potential export and foreign investment opportunities for Montana based industry. From data compiled by the Ports of Portland and Seattle and the US Customs people, we have selected some product categories for study. Coupled with information from our contacts with foreign companies the data has been selected for its potential as a base for a marketing effort. In some cases products in the categories are being exported from Montana now. However, it may be possible to improve performance in these categories as well.

In Table 1 we have addressed the State's export potential based on needed investment in infrastructure and also addressed the issue of foreign investment in that infrastructure. The Tables are self explanatory but we could discuss them at your convenience.

Product Development

We received a very serious and important inquiry concerning the availability of white wood furniture for the Japanese market. G&A discussed this opportunity with several wood products manufacturers. One manufacturer in Charlo, Montana, John Gardner, was quite interested and is fabricating some sample products to estimate costs and competitiveness in this market. We will work closely with Mr. Gardner to see if this market could be exploited.

We have worked with Mr. Steve Mohns of IXL Aircraft to determine if foreign investment in his aircraft company is possible. We have contacted Sumitomo and they have referred his proposal to their aircraft division in Japan at our suggestion. Mr. Mohns will also meet with IMX Corp. in Seattle to determine if the Chinese would be interested in a joint venture arrangement. Since the Chinese have recently invested heavily in similar technology with a Seattle based manufacturer of amphibian aircraft they may also be interested in Mr. Mohns' proposal.

We are also working to place a new ski related product produced in Kalispell in the Japanese and New Zealand markets. This work is just beginning and we will report as it develops.

FIGURE 3

POSSIBLE GROWTH CATAGORIES
(Montana Industry Related)

PORT OF SEATTLE EXPORTS TO FAR EAST - 1984

COMMODITY NAME	METRIC TONS	\$ OF TRADE MILLIONS	\$ PER. FOUND	% CHANGE METRIC TONS FROM 1983
Softwood Lumber	369,205	\$96.4	\$0.12	2.0%
Animal Feed	131,641	\$24.8	\$0.09	12.0%
Beef, Pork, Poultry	17,066	\$52.2	\$1.39	-9.0%
Non-Ferrous Scrap	41,973	\$43.8	\$0.47	-7.0%
Hides	109,072	\$217.0	\$0.90	42.0%
Iron & Steel Scrap	24,058	\$7.0	\$0.13	-34.0%
Basic Grain & Cereal Products	40,465	\$14.6	\$0.16	138.0%
All Other Foodstuffs	24,745	\$22.1	\$0.41	-32.0%
All Other Commodities	25,641	\$128.9	\$2.28	157.0%
Aluminum	106,674	\$155.4	\$0.66	112.0%
Inorganic Chemicals	6,464	\$15.3	\$1.07	-13.0%
Organic Chemicals	37,421	\$53.1	\$0.64	-17.0%
Fresh Vegetables	36,341	\$12.2	\$0.15	313.0%
Apples	76,159	\$56.7	\$0.34	-32.0%
Preserved Fruits	3,988	\$5.1	\$0.58	-29.0%
Sawlogs*	8,862	\$7.9	\$0.40	92.0%
Particle Board	16,547	\$3.8	\$0.11	32.0%
Dairy Products	9,339	\$10.3	\$0.50	159.0%
Non-Ferrous Metals (w/o Cu, Al)	16,922	\$20.6	\$0.55	91.0%
Asbestos	5,230	\$3.7	\$0.32	2,427.0%
Minerals (w/o asbestos, clay)	12,517	\$3.3	\$0.12	-16.0%
Washing & Cleaning Preps	17,364	\$15.9	\$0.42	39.0%
Mfg. Mineral Products, Gems	8,132	\$25.2	\$1.40	86.0%
Clay	28,758	\$5.3	\$0.08	13.0%
Plywood, Veneer	2,513	\$6.9	\$1.24	-3.0%
Vegetable Oils	1,338	\$1.9	\$0.65	71.0%
Oilseeds	7,504	\$2.9	\$0.17	52.0%
Misc. Chemicals	4,360	\$20.3	\$2.11	78.0%
Pharmaceuticals	1,371	\$14.4	\$4.77	60.0%
Copper	4,297	\$11.3	\$1.20	-10.3%
Mfg. Wood Products	3,059	\$5.0	\$0.75	-0.3%
Seeds, Bulbs	5,025	\$7.8	\$0.71	0.6%
Non-Ferrous Ores	1,039	\$2.0	\$0.89	-13.2%

*Includes high cost hardwood logs for specialty products.

Source: FT305/705 Computer Tapes of US Bureau of the Census

THE WORLD'S TOP 20 COUNTRY CONSUMERS OF COMMODITIES
OR PRODUCTS PRODUCED IN MONTANA

<u>Commodity or Product by Standard E Commodity Code No.</u>	<u>Import in (000's) of U.S. Dollars</u>
1) Wood Products - 247 (Wood Shaped, Sleepers)	
United Kingdom	1,174,532
Italy	1,024,314
Germany	942,154
Japan	784,894
Netherlands	522,271
France	593,859
Belgium	319,030
Denmark	181,762
Spain	202,698
Canada	252,538
Australia	222,638
Egypt	309,253
Saudia Arabia	267,185
Singapore	139,171
Switzerland	190,515
Algeria	185,800
Austra	185,800
Norway	112,626
Ireland	103,762
Argentina	170,002
2) Animal Feed - 081 (Feeding stuff for Animals)	
Germany	1,583,004
Netherlands	1,427,493
France	1,159,161
Italy	653,696
Belgium	594,374
United Kingdom	662,462
Japan	509,180
Denmark	573,943
Sweden	194,475
Ireland	194,323
Austria	165,587
Cuba	254,131
Canada	151,017
Switzerland	143,932
Spain	141,814
Singapore	87,037
Malaysia	130,422
Yugoslavia	131,498
Portugal	141,932
Phillipines	91,460

THE WORLD'S TOP 20 COUNTRY CONSUMERS OF COMMODITIES
OR PRODUCTS PRODUCED IN MONTANA

<u>Commodity or Product by Standard E Commodity Code No.</u>	<u>Import in (000's) of U.S. Dollars</u>
--	--

3) Logs and Lumber - 247 (OTH Wood Rough, Squared)

Japan	3,640,366
Korea	647,699
Italy	455,909
Germany	264,879
France	257,410
Spain	76,254
Belgium	73,244
Austria	106,333
Saudi Arabia	92,078
Canada	61,142
Greece	38,531
Netherlands	40,521
Hong Kong	52,927
United Kingdom	37,672
Portugal	86,955
Singapore	41,956
Switzerland	31,296
Sweden	28,693
Israel	25,727
Yugoslavia	35,934

4) Meat and Meat Products - 011 (Meat, Fresh, Chilled, Frozen)

Germany	1,979,127
Italy	2,062,449
France	1,888,314
Japan	1,857,106
United Kingdom	1,149,809
Netherlands	412,621
Belgium	362,413
Saudi Arabia	475,922
Greece	245,665
Canada	242,837
Iran	315,118
Spain	89,626
Hong Kong	89,626
Switzerland	189,417
Brazil	76,361
Egypt	301,240
United Arab Emirates	141,128
Korea	89,002
Israel	126,207
Venezuela	47,275

THE WORLD'S TOP 20 COUNTRY CONSUMERS OF COMMODITIES
OR PRODUCTS PRODUCED IN MONTANA

<u>Commodity or Product by Standard E Commodity Code No.</u>	<u>Import in (000's) of U.S. Dollars</u>
5) Computers - 7522 (Digital Computers)	
United Kingdom	130,599
Canada	396,088
Germany	222,627
Spain	41,941
Netherlands	160,403
Australia	933,999
Japan	85,898
Ireland	86,465
France	128,170
Italy	44,353
Belgium	38,066
Brazil	25,625
Yugoslavia	10,011
Denmark	18,487
New Zealand	25,948
Korea	16,855
Norway	9,664
Finland	19,563
Portugal	19,000
6) Chemicals and fertilizers - 562 (Fertilizers, Manufacturer)	
France	661,556
India	846,606
Brazil	436,404
Germany	483,243
Turkey	240,007
Pakistan	240,007
Italy	162,931
Belgium	265,372
Japan	251,686
United Kingdom	211,384
Ireland	153,768
Malaysia	226,250
Denmark	132,492
Thailand	166,245
Netherlands	110,424
Phillipines	147,205
Sweden	89,172
Canada	119,673
Bangladesh	94,342

THE WORLD'S TOP 20 COUNTRY CONSUMERS OF COMMODITIES
OR PRODUCTS PRODUCED IN MONTANA

Commodity or Product by Standard E Commodity Code No.	Import in (000's) of U.S. Dollars
--	--------------------------------------

7) Fabricated Metal Products - 6924 (Metal Transport Boxes etc.)

Netherlands	177,119
Germany	120,556
United Kingdom	80,594
France	89,669
Belgium	94,311
Algeria	22,609
Ireland	49,607
Saudi Arabia	58,907
Sweden	36,238
Italy	34,669
Austria	44,492
Canada	45,195
Denmark	46,681
Switzerland	27,524
Mexico	26,655
Iran	20,417
Venezuala	7,951
Nigeria	17,910
Korea	16,225
Spain	15,280

8) Scientific Instruments - 874 (Measuring Controlling Instruments)

Germany	1,368,473
United Kingdom	1,449,675
France	1,077,608
Italy	750,634
Japan	790,341
Canada	801,170
Netherlands	587,893
Switzerland	379,632
Belgium	334,061
Sweden	322,378
Brazil	232,163
Australia	377,095
Spain	298,044
Austria	207,576
Korea	195,943
Saudi Arabia	223,372
Yugoslavia	166,381
Singapore	233,532
Norway	155,642
Denmark	108,411

THE WORLD'S TOP 20 COUNTRY CONSUMERS OF COMMODITIES
OR PRODUCTS PRODUCED IN MONTANA

Commodity or Product by Standard E Commodity Code No.	Import in (000's) of U.S. Dollars
9) Grain - 041 (Wheat Etc. Unmilled)	
Japan	1,273,207
Brazil	962,201
Italy	680,674
United Kingdom	419,851
Egypt	758,859
Cuba	518,375
Netherlands	324,624
Algeria	397,963
Korea	405,091
Belgium	295,642
Germany	300,519
Morocco	316,782
Bargladesh	356,442
Nigeria	213,925
Pakistan	88,143
Chile	241,686
Iran	284,791
Venezuala	176,819
Mexico	213,561
Iraq	229,606
10) Livestock - 001 (Live Animals for Food)	
Italy	1,367,687
France	448,339
Germany	291,757
Hong Kong	338,309
Belgium	256,389
Saudi Arabia	564,283
Libya	417,136
United Kingdom	220,775
Ireland	171,575
Iran	136,690
Kuwait	95,695
Canada	152,189
Japan	52,311
Netherlands	54,100
Brazil	22,066
Mexico	28,710
Lebanon	61,854
Nigeria	35,989
Korea	16,099
Australia	30,262

THE WORLD'S TOP 20 COUNTRY CONSUMERS OF COMMODITIES
OR PRODUCTS PRODUCED IN MONTANA

Commodity or Product by Standard E Commodity Code No.	Import in (000's) of U.S. Dollars
11) Fruits and Vegetables - 054 (Vegetables Etc. Fresh, Simply Preserved)	
Germany	1,792,507
France	732,872
United Kingdom	834,013
Netherlands	712,477
Belgium	392,635
Japan	547,251
Canada	431,416
Italy	259,332
Switzerland	196,460
Sweden	136,391
Brazil	90,125
Hong Kong	157,578
Algeria	112,553
Cuba	141,121
Spain	105,908
Austria	91,635
Mexico	335,583
Saudi Arabia	121,804
Denmark	77,772
Singapore	74,984
12) Ores - 287 (Base Metal Ores, Cona)	
Japan	3,174,219
Germany	1,173,559
United Kingdom	1,125,940
France	651,611
Norway	642,350
Netherlands	525,395
Belgium	536,334
Spain	336,754
Canada	485,891
Italy	318,421
Sweden	225,168
Austria	184,756
Brazil	80,652
Malagsia	167,070
Korea	272,534
Finland	99,630
Yugoslavia	112,945
Mexico	218,992
Venezuala	6,926
Argentina	16,869

THE WORLD'S TOP 20 COUNTRY CONSUMERS OF COMMODITIES
OR PRODUCTS PRODUCED IN MONTANA

<u>Commodity or Product by Standard E Commodity Code No.</u>	<u>Import in (000's) of U.S. Dollars</u>
13) Copper - 2871 (Copper Ores etc., Cement Copper)	
Japan	1,676,341
Germany	283,114
Spain	105,606
Korea	207,635
Sweden	51,560
Canada	4,569
Finland	17,004
South Africa	21,544
Belgium, Luxembourg	29,683
Mexico	6,377
Portugal	3,633
United Kingdom	753
Thailand	301
France	27
Kuwait	81
Italy	334
United Arab Emirates	475
Australia	7,379

14) Hides and Furs - 211 (Hides, Skins excluding Furs, Raw)

Italy	653,577
Japan	421,249
France	177,695
Spain	137,468
Korea	162,071
Germany	84,699
United Kingdom	106,835
Netherlands	62,478
Yugoslavia	91,569
Mexico	67,611
Belgium Luxembourg	37,956
Canada	39,395
Greece	20,535
Sweden	28,935
Portugal	27,863
Finland	19,294
Hong Kong	17,276
Austria	8,701
Switzerland	10,144
Ireland	7,267

THE WORLD'S TOP 20 COUNTRY CONSUMERS OF COMMODITIES
OR PRODUCTS PRODUCED IN MONTANA

Commodity or Product by Standard E Commodity Code No.	Import in (000's) of U.S. Dollars
15) Concrete and Clay - 662 (Clay, Refractory Building Products)	
Germany	541,677
France	534,335
Belgium Luxembourg	189,608
Saudia Arabia	239,340
Netherland	104,425
Canada	150,113
Austria	115,154
Italy	120,900
Switzerland	98,692
Australia	105,147
United Kingdom	95,539
Sweden	50,359
Spain	39,980
Hong Kong	73,682
Singapore	74,272
Denmark	27,750
Argentina	65,799
Mexico	39,535
Venezuala	54,748
Greece	29,007
Brazil	93,952
16) Telecommunications Equipment - 764 (Telecommunications Equipment Parts Accessories)	
Germany	1,130,376
Canada	809,401
France	787,017
United Kingdom	972,680
Netherlands	538,315
Italy	534,869
Saudi Arabia	460,748
Belgium, Luxembourg	439,342
Hong Kong	491,096
Korea	482,027
Japan	345,954
Singapore	292,097
Austria	226,849
Nigeria	252,087
Switzerland	242,241
Spain	266,490
Sweden	224,707
Australia	337,980
Denmark	157,767
Norway	207,932

THE WORLD'S TOP 20 COUNTRY CONSUMERS OF COMMODITIES
OR PRODUCTS PRODUCED IN MONTANA

Commodity or Product by Standard E Commodity Code No.	Import in (000's) of U.S. Dollars
17) Agricultural Machinery - 721 (Agricultural Machinery Ex- cluding Tractors)	
Canada	810,322
France	554,761
Germany	255,367
United Kingdom	290,385
Mexico	340,396
South Africa	339,230
Netherlands	117,957
Italy	135,595
Belgium, Luxembourg	120,407
Ireland	69,081
Sweden	104,846
Australia	130,158
Austria	87,038
Denmark	53,048
Spain	67,266
Switzerland	71,361
Japan	40,519
Finland	61,541
Norway	56,191
Saudi Arabia	124,144
18) Wool - 268 (Wool Exc. Tops, Animal Hair)	
Japan	781,336
Italy	578,706
United Kingdom	409,863
France	437,296
Germany	361,553
Belgium	169,631
Korea	163,074
Yugoslavia	134,685
Greece	54,298
Spain	76,123
Iran	126,853
India	82,187
Netherlands	45,355
Austria	48,869
Macao	34,862
Australia	36,983
Hong Kong	66,448
Ireland	22,786
Portugal	27,479

THE WORLD'S TOP 20 COUNTRY CONSUMERS OF COMMODITIES
OR PRODUCTS PRODUCED IN MONTANA

<u>Commodity or Product by Standard E Commodity Code No.</u>	<u>Import in (000's) of U.S. Dollars</u>
19) Precessed Foods - 014 (Meat Prepared, Preserved)	
United Kingdom	626,910
Germany	331,879
France	95,344
Netherlands	108,678
Belgium, Luxembourg	76,757
Italy	71,088
Japan	56,090
Switzerland	48,483
Hong Kong	54,360
Canada	26,885
Spain	26,551
Sweden	12,702
Papua New Guinea	31,694
Saudia Arabia	25,549
Greece	24,003
Bahamas	16,997
Ireland	14,369
Malaysia	18,761
Chile	5,032
20) Coal - 322 (Coal, Lignite and Peat)	
Japan	5,525,836
France	1,941,985
Italy	1,412,303
Canada	693,892
Belgium, Luxembourg	776,417
Germany	780,828
Netherlands	589,950
United Kingdom	338,996
Denmark	697,921
Brazil	368,690
Korea	786,332
Spain	506,890
Finland	428,600
Austria	265,235
Yugoslavia	299,763
Sweden	173,332
Ireland	136,982
Argentina	63,546
Norway	67,525
Turkey	31,782

Source: 1981 Yearbook of International Trade Statistics

TOP 20 EXPORT POTENTIAL COUNTRIES

<u>Original List</u>		<u>Revised List</u>	
1	Japan *	1	Japan*
2	Korea *	2	Canada*
3	Canada*	3	Korea*
4	Taiwan*	4	United Kingdom
5	United Kingdom	5	Taiwan*
5	Mexico*	5	Mexico*
6	Hong Kong*	6	Australia*
7	Philippines*	7	Hong Kong*
7	Australia*	8	Germany
7	Saudi Arabia	8	Sweden
8	Germany	9	Saudi Arabia
9	China*	10	Netherlands
10	Sweden	10	Norway
11	Indonesia*	11	Singapore*
11	New Zealand*	11	New Zealand*
12	Netherlands	12	China*
13	Malaysia*	13	France
13	Peru*	13	Belgium
14	Italy	14	Denmark
14	France	14	Indonesia*
TOP 20			
14	Egypt	16	Spain
		16	Malaysia*
		16	Peru*

* Pacific Rim.

STATE OF MONTANA
Export Market Survey



Montana Department of Commerce
and
Montana Department of Agriculture
in cooperation with
Federal Maritime Administration
U.S. Department of Transportation



Date: _____

State of Montana
Export Market Survey

Commodity Group _____

Country _____

1. Name of Company: _____ 3. Tele. No.: _____
2. Address: _____ 4. Interviewee: _____
- _____ 5. Title: _____
- _____

6. Have you ever imported products from Montana? ☐ Yes ☐ No

Explain: _____

7. What are your impressions of Montana as a source of commodities and resources?

8. Have you ever visited Montana? ☐ Yes ☐ No ☐ Do Not Know

9. In terms of currency value, what three U.S. imported products are the most important to you in the

_____ commodity group?

Product	Annual Quantities (metric tons, units, etc.)	Typical Origin	Typical Destination
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____

10. On the average what was the delivered price of the products listed in Question #9 during the past six months?

Product	Delivered Price	Delivered Price
	U.S. \$ per _____ (bushel, ton, etc.)	_____ per _____ (country currency/bushel, ton, etc.)
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____

11. For the products listed in Question #9, what is your usual or preferred source?

Product	Country Source	Company Source	Reason
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____

12. What is the average size and frequency of shipments of the products listed in Question #9?

Product	Size	Frequency
	(Ex. 100 bushels per container)	(Ex. 20 containers per week)
1. _____	_____ per _____	_____ per _____
2. _____	_____ per _____	_____ per _____
3. _____	_____ per _____	_____ per _____

13. If known, what percentage of the delivered cost of the products listed in Question #9 is in transportation?

Product	Transportation Cost	Mode of Transportation			
		Air Freight		Surface Transport	
		Commercial	Contract	Bulk	Containerized
1. _____	_____ %	—	—	—	—
2. _____	_____ %	—	—	—	—
3. _____	_____ %	—	—	—	—

14. Are you satisfied with the quality, cost and delivery of the products listed in Question #9? ☐ Yes ☐ No

If not, what improvements are you seeking?

	Product	Improvements
1.	_____	_____
2.	_____	_____
3.	_____	_____

15. Are there special specifications, product requirements or consumer habits for any of the product listed in Question #9 which require special attention? ☐ Yes ☐ No

If yes, explain. (Interviewer solicit responses to metric measurements, Btu/sulfur/moisture content, packaging, customs, etc.)

	Product	Remarks
1.	_____	_____ _____
2.	_____	_____ _____
3.	_____	_____ _____

16. Will the demand for the products listed in Question #9 increase or decrease in the future?

	Product	One Year	Ten Years
1.	_____	_____ %	_____ %
2.	_____	_____ %	_____ %
3.	_____	_____ %	_____ %

17. What are the five most important factors influencing your purchasing decision for each of the products listed in

Question #9?

(Rank 1 most important to 15 least important) 5	Rank Product 1	Rank Product 2	Rank Product 3
Delivered Cost	=	=	=
Product Quality	=	=	=
Supplier Reliability	=	=	=
Supplier Proximity	=	=	=
Speed of Delivery	=	=	=
Payment Terms	=	=	=
Long-Term Contract	=	=	=
Political Consideration	=	=	=
Packaging	=	=	=
Loss/Damage Control	=	=	=
Government Incentives	=	=	=
Trade/Customs, Quotas and Tariffs	=	=	=
Other	=	=	=

18. Do you have a preference or requirement for carrying imported products on vessels or aircraft of designated carriers or flags? ☐ Yes ☐ No

If yes, explain:

19. For each of the products listed in Question #9 what are the acceptable limits of delivery and costs?

Product

1. _____ U.S. \$ _____ per ton _____ shipments per year
2. _____ U.S. \$ _____ per ton _____ shipments per year
3. _____ U.S. \$ _____ per ton _____ shipments per year

20. If a Montana supplier could provide the products cited in Question #19 at the price and frequency indicated and to your specifications, what would be the probability of your placing an order in the next six months?

Product

1. _____ ☐ high probability ☐ possible ☐ improbable
2. _____ ☐ high probability ☐ possible ☐ improbable
3. _____ ☐ high probability ☐ possible ☐ improbable

If response is improbable please explain: _____

21. Would you be interested in visiting a Montana supplier? ☐ Yes ☐ No

When would be a good time? _____

COMMENTS

Notes to Table 7.1

1. Existing source transportation and delivered costs obtained from Montana market surveys.
2. Existing Montana FOB coal price obtained from Westmoreland Coal.
3. Coal rail transportation costs estimated at \$0.02 per ton-mile with a \$3.00 per ton terminal cost.
4. Rail mileages obtained from the Rand McNally Railroad Atlas of the United States.
5. Tramp steamer rates obtained from Lloyd's List.

Notes to Table 7.2

1. Existing source transportation and delivered costs obtained from Montana market surveys.
2. Existing Montana FOB wheat and barley prices obtained from the Montana Department of Agriculture.
3. Grain rail transportation costs obtained from Burlington Northern and Union Pacific tariffs.
4. Grain port handling costs estimated based on rate quotes obtained from Ryan-Walsh.
5. Tramp steamer rates obtained for Lloyd's List.

Notes to Tables 7.3 and 7.4

1. Existing source transportation and delivered costs obtained from Montana market surveys.
2. Existing Montana FOB beef prices obtained from the Montana Department of Agriculture. Tenderloin fillets (in roll) valued at \$3.35/lb. and strip loins (in roll) at \$2.15. Study employed average of \$2.75 per pound.
3. Rail transport costs for Alternatives 1.1 and 2.1 obtained from Burlington Northern and Conrail.
4. Rail transport costs for Alternatives 1.2 and 2.2 obtained from Canadian Pacific.
5. Truck transport costs for Alternatives 3.1 and 4.1 obtained from Golden Colorado Motor Carriers.
6. Truck transport costs for Alternatives 3.2 and 4.2 obtained from Golden Colorado Motor Carriers.
7. Port costs and ocean carrier rates for Alternatives 1.1 and 2.1 obtained from the Port of Baltimore and Sealand.
8. Port costs and ocean carrier rates for Alternatives 1.2 and 2.2 obtained from Canada Maritime.
9. Port costs and ocean carrier rates for Alternatives 3.1, 3.2, 4.1 and 4.2 obtained from Hapag Lloyd and Matson.
10. Motor carrier rates obtained from Golden Colorado motor carriers.
11. Average of 10.2 metric tons per container was used.
12. Conversion rate of 1.37 Canadian dollars per 1 United States dollar was used.

Notes to Tables 7.5 and 7.6

1. Existing source transportation cost and delivered cost information obtained from Montana market surveys.
2. Existing Montana FOB softwood prices obtained from the Port of Montana.
3. Montana cartage costs of \$200 per container included with rail costs.
4. Motor carrier rates obtained from Golden Colorado motor carriers.
5. Rail rates for Alternatives 1.1, 1.2, 2.1, and 2.2 obtained from Burlington Northern and Conrail.
6. Rail rates for Alternatives 3.1 and 3.2 estimated from data obtained from Burlington Northern.
7. Port costs and ocean carrier costs for Alternatives 1.1 and 2.1 obtained from the State of Montana.
8. Port costs and ocean carrier costs for Alternatives 1.2 and 2.2 obtained from Polich Ocean Lines and Atlanticargo.
9. Ocean carrier costs for Alternatives 3.1 and 3.2 obtained from Plumb Creek.
10. Average of 21 metric tons per 40 foot container was used. Value of 619 board feet per metric ton used.

Notes to Tables 7.7 and 7.8

1. Existing source transportation cost and delivered cost information obtained from Montana market surveys.
2. Existing Montana FOB cow hide prices obtained from Pacific Hide and Fur and the State of Montana. FOB Montana prices \$29.00/hide, average weight per hide is 43 pounds.
3. Rail transport rate to Seattle obtained from Burlington Northern.
4. Rail transport rates to Portland obtained from Pacific Hide and Fur.
5. Ocean carrier costs and port costs for Alternatives 1.1, 2.1, and 3.1 obtained from Evergreen Lines.
6. Ocean carrier costs for Alternatives 2.2 and 3.2 obtained from Pacific Hide and Fur.
7. Average of 17.55 metric tons per container was used.

Notes to Tables 7.9 and 7.10

1. Existing source transportation cost and delivered cost information obtained from Montana market surveys.
2. Montana FOB talc prices, and inland and ocean transportation costs for Alternative 1.1 obtained from the State of Montana.
3. Rail costs for Alternative 1.2 obtained from Burlington Northern.
4. Ocean carrier costs for Alternative 1.2 obtained from Maersk.
5. Average of 17.69 metric tons per 20 foot container was used.

Notes to Tables 7.11 and 7.12

1. Existing source transportation cost and delivered cost information obtained from Montana market surveys.
2. Montana FOB prices for sunflower seeds obtained from the State of Montana.
3. Rail transport cost for Alternative 1.1 obtained from Burlington Northern and Conrail.
4. Port costs for Alternative 1.1 obtained from the Port of Baltimore.
5. Ocean carrier rates for Alternative 1.1 based on data from Sea-Land.
6. Motor carrier cost estimates for Alternative 1.2 obtained from Canada Maritime.
7. Rail transport cost estimates for Alternative 1.2 obtained from Canadian Pacific and Canada Maritime.
8. Port costs and ocean carrier cost estimates for Alternative 1.2 obtained from Cast and Canada Maritime.
9. Average of 16 metric tons per twenty foot container used.
10. Conversion rate of 1.37 Canadian dollars to 1 United States dollar used.

Notes to Table 7.15

1. Existing source transportation and delivered costs obtained from Montana market surveys.
2. Existing Montana FOB coal price obtained from Westmoreland Coal.
3. Coal rail transportation costs estimated at \$0.02 per ton-mile with a \$3.00 per ton terminal cost.
4. Rail mileages obtained from the Rand McNally Railroad Atlas of the United States.
5. Laker rates for Alternatives 1.3 and 2.3 obtained from the Port of Duluth.
6. Barge rates for Alternatives 1.4 and 2.4 obtained from SNLO Barge Lines.
7. Barge rates for Alternative 3.3 estimated from information obtained from Shaver Transportation.
8. Tramp steamer rates obtained from Lloyd's List.

Notes to Table 7.16

1. Existing source transportation and delivered costs obtained from Montana market surveys.
2. Existing Montana FOB wheat and barley prices obtained from the Montana Department of Agriculture.
3. Grain rail transportation costs obtained from Burlington Northern and Union Pacific tariffs.
4. Barge rates obtained from Shaver Transportation.
5. Grain port handling costs estimated based on rate quotes obtained from Ryan-Walsh.
6. Tramp steamer rates obtained from Lloyd's List.
7. Motor carrier rates provided by Montana Wheat Research and Marketing Committee.

Notes to Tables 7.17 and 7.18

1. Existing source transportation cost and delivered cost information obtained from Montana market surveys.
2. Existing Montana FOB softwood prices obtained from the Port of Montana.
3. Montana cartage costs of \$200 per container included with rail costs.
4. Motor carrier rates obtained from Golden Colorado motor carriers.
5. Rail rates for Alternatives 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, and 2.4 obtained from Burlington Northern and Conrail.
6. Rail rates for Alternatives 3.1, 3.2, and 3.3 estimated from data obtained from Burlington Northern.
7. Laker rates for Alternatives 1.3 and 2.3 based on estimates provided by the Port of Duluth.
8. Barge rates for Alternatives 1.4 and 2.4 obtained from SNLO Barge Lines.
9. Barge rates for Alternative 3.3 obtained from Shaver Transportation.
10. Port costs and ocean carrier costs for Alternatives 1.1 and 2.1 obtained from the Port of Montana.
11. Port costs and ocean carrier costs for Alternatives 1.2 and 2.2 obtained from Polish Ocean Lines and Atlanticargo.
12. Ocean carrier costs for Alternatives 3.1 and 3.2 obtained from Plumb Creek.
13. Average of 21 metric tons per 40 foot container was used. Value of 619 board feet per metric ton used.

BIBLIOGRAPHY

- Burlington Northern Inc. Tracks and Trucks - Intermodal Service Adds a New Dimension to BNRR Transportation. Montana Report, Fall 1985.
- Burlington Northern Public Relations and Advertising Department. International Marketing and Sales Department Created by BN Railroad. Burlington Northern Railroad News, December 12, 1983.
- Cooperative Extension Service of Montana State University. Global Meat Trade. Western Livestock Round Up, December 1985.
- Ettorre, John J. "A Year End Review." Shipping Short-Term Ills, Long Term Hopes. Traffic World, January 6, 1986.
- Hejj, Erwin. Analysis and Comparison of Rail and Road Intermodal Freight Terminals That Employ Different Handling Techniques. Transportation Research Record 907, Transportation Research Board, National Academy of Sciences, 1983.
- LoDico, John. "Transportation Week." Linertrains Criss-Cross Country as New Shipping Trend Explodes. Traffic World, April 15, 1985.
- Lundberg, Joe. 1982 Grain Movement Data Report. Montana Department of Agriculture, April 1983.
- McGraw-Hill Inc. Current Contract and Spot Marker Steam Coal Prices. Coal Week. Volume II No. 47, November 25, 1985.
- Montana Grain Growers Association. Japanese Brewers Look at Montana Barley. MGGA Report, August 22, 1985.
- Oviatt, Tim. "Wheat Associates." Foreign Marketing Focus. The Wheat Grower. Volume 6 No. 11, November 1983.
- Port of Lewiston. A Look Back with Carl Moore. Northwest Passage, February 1986.
- Port of Lewiston. Port Terminals. Northwest Passage, October 1985.
- Port of Portland. Port of Portland Heads for Record Breaking Year. Soundings. Volume 14 No. 4, October/November 1984.

Seaway Review Staff. Consulates with Specific Buying Information for Coal Importing Nations. Seaway Review. Volume 13 No. 1, December 1983.

Sogo Shosha Committee. The Sogo Shosha: What They Are and How They Can Work For You. Japan Foreign Trade Council, 1984.

United Nations. 1982 Yearbook of International Trade Statistics. New York, New York: United Nations, 1984.

BIBLIOGRAPHIC DATA SHEET		1. Report No. MA-PORT-830-86017	2.	3. Recipient's Accession No.
4. Title and Subtitle The Feasibility Of Stimulating Montana Exports Through Transportation Innovation			5. Report Date April 1986	
7. Author(s) Richard A. Howell, Jerry Tavegia, John Maloney Steve Kalgaard - Montana Department of Agriculture			8. Performing Organization Rept. No.	
9. Performing Organization Name and Address Montana Department of Commerce 1424 Ninth Avenue Helena, Montana 59620			10. Project/Task/Work Unit No.	
12. Sponsoring Organization Name and Address Maritime Administration U.S. Department of Transportation 400 Seventh Street, S.W. Washington, D.C. 20590			11. Contract/Grant No. DTMA-91-84-X-4-001	
13. Type of Report & Period Covered Final			14.	
15. Supplementary Notes Prepared in cooperation with the Montana Department of Agriculture and the Port of Montana				
16. Abstracts Provides an inventory of Montana's exportable commodities and products, identifies key Montana export commodities, determination of target markets and development of overseas market information. From the Montana product inventory data and target market survey information, transportation corridors, costs and alternatives were established along with transportation cost comparisons made relative to the use of waterway and maritime assets and the potential incorporation of transportation innovation measures. A two part action program is presented that consists of: (1) transportation action plan which addresses steps necessary to ensure Montana products can be delivered to foreign markets at a competitive price; and (2) marketing action plan which specifies steps (see below)				
17. Key Words and Document Analysis. 17a. Descriptors				
17b. Identifiers/Open-Ended Terms				
17c. COSATI Field/Group				
18. Availability Statement Available while publication supply lasts.			19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages
			20. Security Class (This Page) UNCLASSIFIED	22. Price

16. Abstracts (Continued)

that should be taken by Montana government and industry to market products overseas.

100 copies of this public document were published at an estimated cost of \$12.50 per copy, for a total cost of \$1,250.00, which includes \$1,250.00 for printing and \$.00 for distribution.